Mixman® StudioPro™ 4.0

PC USER GUIDE

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Welcome

Welcome to the Mixman StudioPro User's Manual. StudioPro is a powerful music creation, remixing and performance system, with the tools and special FX needed to create professional sounding music on your computer.

If you have questions that remain unanswered in this manual, or need up-to-the-minute technical information, visit www.mixman.com where there is technical information 24 hours a day, 7 days a week. The tips and tricks section of the web site is a valuable source of new information, and the Mixzone is a great way to connect with other StudioPro users. If you want to hear music made with Mixman software, that was produced by other Mixman enthusiasts, go to Mixman Radio. (www.mixman.com/radiomixman)

We hope you enjoy Mixman StudioPro!

Chapter 1: Installing Mixman StudioPro

System Requirements

Before installing StudioPro, please take a moment to consider the following minimum system requirements.

- Windows 95 / 98 / 2000
- Pentium II 233 MHz Or faster
- 32 MB of RAM (64 MB or more recommended)
- 40 MB available hardrive space (300 MB to install with sounds)

Installation Instructions

We strongly encourage registering your copy of Mixman StudioPro. It is an invaluable way for us to learn about our users and allows us to continue creating the best possible music software on the market.

fig. 1

To install Mixman StudioPro: (fig. 1)

1. Insert the Mixman StudioPro CD-ROM into your computer's CD-ROM drive
2. Wait for the Installation program to autorun
3. Click "Install StudioPro". Follow the instructions in the Setup program.

Getting the best performance from your PC

Mixman StudioPro is a real-time, high-performance application that uses all the power of the PC. For those interested in getting the most out of their computer, we have included a list of the different components of the computer system, and how they effect StudioPro's performance.

Processor Speed

The speed of the computer's processor is most dramatically seen when engaging W.A.R.P. The time it takes to add complex FX processing to sound is directly related to the speed of the processor. Processor speed also effects the number of voice channels available. Depending on processor speed, up to 256 voice channels are available.

RAM

All sounds that are loaded into StudioPro are stored in RAM. The amount of available RAM determines how much sound can be loaded in at any given time. Longer sounds require more RAM. Applying certain FX processing, for example, reverb and delay, increase the size of a sound.

ASCII keyboard

Each ACSII keyboard manufacturer makes their keyboards slightly different. Each keyboard has a different physical limit to the number of keys that may be held down simultaneously. This can be frustrating at times, so to help with this problem, duplicate keys for the most important real-time key commands have been added. As well, there are easy to use macros. For a list of keyboard commands, see Appendix 1 on page 31.

SCSI vs IDE disk drives

StudioPro is constantly accessing the computer's hard disk while loading files, adding FX processing, and exporting Mixes. Using SCSI disk drives can drastically speed up system performance.

Chapter 2: Concepts

What is a PC wave file? (.wav)

PC wave files are the industry standard format for storing and playing back digital audio on a PC computer. Wave files store audio signals as digital data. StudioPro has the ability to both import and export PC .wav files.

What is a Mixman Track file? (.trk)

One of the challenges in creating truly interactive digital audio performance software is deciding what format of audio to use. The industry standard format for playing back CD quality audio is the .wav file. The problem with .wav files is that they contain only one sound. Take for example, a recording of a bass line. It does not contain the individual notes in the bass line but rather, the whole bass line is part of one .wav file. There is no information in a .wav file about when the bass notes actually occur, or what tempo is implied. These are severe limitations and that is why we have created our own file format, called a Track file (.trk).

Track files are the building blocks of sound in StudioPro. Just like a .wav file, Track files contain digital audio, but that is where the similarities end. In the bass line example, the Track version of the bass line actually has a different piece of digital audio for each bass note. We call these pieces of digital audio "slices" . Embedded in each Track file is also the equivalent of a MIDI file that knows the tempo and exactly how and when to play each "slice". This enables StudioPro to load Tracks created at different tempos and effortlessly pitch shift and time-stretch them to match any tempo.

The way Track files respond to being triggered by the computer keyboard can also be customized. It is possible to hear a triggered "slice" in its entirety regardless of when the key is released. As well, the minimum length of time, between when a sound is triggered and when the next available "slice" is heard, can be precisely controlled. If this is starting to sound complicated…don't worry. Tracks are designed to do all the work for you. It is not required to edit or change settings on a Track file in order to create incredible music in StudioPro, nor is it required that users understand how the automatic tempo adjustments (beat matching) occur. These descriptions are mentioned simply to let users know that there is a lot of hidden power "under the hood" of the StudioPro engine!

What is a Mix? (.mix)

One of the things that makes StudioPro different than a traditional electronic music studio setup is the ability to store all of your work in one convenient file. The Mix file stores all of the necessary information for a StudioPro session. So what exactly does it store? Mix files store the names and locations of every sound used in a Mix. They also store any FX processing settings that have been applied to a sound, as well as any real-time performance data that has been created.

Since Mix files are only storing control information, and not actual audio data, they are much smaller than the audio files they are able to generate. For example, a Mix file representing a five minute song, may only be 100k, while the five minute .wav file version of the song would be close to 50 Megabytes. This is a huge difference. The small size of Mix files makes them a great way to archive music, since hundreds of Mixes will fit in the disk space taken up by just one minute of digital audio.

Another great benefit to the small size of Mix files is their ability to enable sharing music with other people over the internet. As long as the person at the receiving end has the same set of sounds as the sender, the Mix file will play back exactly the same for both users. From this tiny file, anyone can recreate the audio on their computer by opening the Mix file in StudioPro. Mixman users worldwide have already started exchanging Mixes. To exchange Mixes with other Mixman users, just visit the Mixzone on the Mixman website: www.mixman.com.

What is a Remix?

In recent years there has been a significant amount of hype about electronic music, remixes and DJ culture. Record companies have always remixed versions of songs to breathe new life in to them or make them appeal to a specific music market. A slow ballad might be turned into a stylish dance song. But what is a remix? A remix in its truest sense is the art of taking elements from an existing song and adding new musical elements in order to augment or change the feel of the original song. It is quite common today to find artists that alter the original parts of a song to the point at which the line between remixing and composing is significantly blurred. In this new millenium, with software like StudioPro, the definition of DJ, artist, remixer and producer will continue to change and grow. We hope this will yield new styles of music.

What is beat matching?

Beat matching is a term used by DJs to generically describe the art of seamlessly transitioning from one record to another. Sounds simple, but it definitely is not. It is actually a very unforgiving bit of turntable magic, that requires years of practice to do properly. What is actually happening when a DJ smoothly transitions from one song to another? First, there is the song that is currently being played. To add a sound or song on top of it, the new material must be at the same tempo as the currently playing music. Since no two records (or turntables) are ever the same, the DJ is constantly adjusting the tempo of the music that is playing. The way a DJ changes tempo is by changing the speed at which the turntable rotates. The faster the rotation, the faster the song plays, the slower the rotation the slower the song plays. This speeding up or down of the song has artifacts, it effects the overall pitch of the song. Making it faster, makes it sound higher. Making it slower, makes it sound lower.

StudioPro allows you to seamlessly add beats and other musical sounds to your Mix regardless of their tempo, and utilizes powerful algorithms to automatically match the tempos. The method of beat matching is also customizable. Pitch shifting is still an option, but tempo can also be changed using time-stretching. This auto beat-matching happens automatically while loading Tracks into StudioPro.

The next chapter explains the StudioPro interface and its various components. Before jumping in and actually starting to use the program, take a moment and get familiarized with the different studios and their unique features.

Chapter 3: Interface and Workflow

Program overview

StudioPro blurs the lines between traditional sequencing and sampling products by combining them into one system. The different parts of the program encompass the most important features found in a conventional electronic music setup.

For instance, a conventional setup might include:

1. Sampler, for digitally recording and playing back sounds
2. MIDI keyboard to trigger the sounds in the sampler
3. MIDI sequencer to record the MIDI information
4. Audio mixer to combine all the signals
5. Rack of FX processors to process the sound

This kind of setup is both costly and has a tremendously steep learning curve. We have tried our best to cover as many of the features in such a setup, while keeping it intuitive enough so that the music making process can still be enjoyable.

The Remixing Studio

The heart of it all is the Remixing Studio. It can be thought of as the "sampler" (16 part multi-timbral, 256 voices) component of StudioPro. Here, up to sixteen tracks of digital audio can be loaded and triggered live. The sounds can be either traditional .wav files, or the Mixman format called Track files (.trk) which provide much more control and flexibility than standard .wav files.

Mixman® Singles™

From the Mixman website, you can download Mixman Singles, which are remixmable songs by artists and producers.

Mixman® Soundiscs™

StudioPro comes with a library of Track files to use right out of the box. When more sounds are needed, we have an extensive library of Soundiscs™ with Tracks in many different styles.

The Recording Studio

To help record custom .wav files, there is a Recording Studio to make the process quick and easy. After making a recording, edit it using a digital audio editing program.

The FX Studio

Once sounds are loaded, they may be altered using FX processing. For those familiar with the more traditional method of adding FX processing to a sound by sending a signal to an FX box and returning the altered signal back to a mixer, things may seem a little different here. We use more of a sound design approach. Instead of running the different FX processes live (which takes up considerable CPU power), we allow each sound to be processed with up to five unique FX algorithms. The sounds are processed out of real-time and the result is stored in RAM. The original sound is not altered in any way and each of the FX parameters can be modified at any time,

making this a totally non-destructive environment. The benefit to this system is that it functions like having 80 independent FX processors, a feat that would not be possible with even today's fastest computers (for Real-time FX, see W.A.R.P. below).

pitch and tempo changes may all be automated. When your mix is perfected, export it as a CD quality .wav file, Real Audio file, SoundFont bank, Windows® media™ audio, Beatnik® RMF™, or Mixman .trk file.

Performing a Mix

Once each sound is sculpted to sonic perfection in the FX Studio, it's time to go back to the Remixing Studio. This is where live performances are created. The computer keyboard takes the place of a traditional MIDI keyboard in this instance. Each sound is triggered by a different key on the computer keyboard.

While playing live, the Remixing Studio also provides the functionality of a mixer, allowing independent control of the volume and panning of each sound. The pitch of each sound may be adjusted up or down two octaves.

The W.A.R.P. feature allows you to apply real-time effects over your entire mix. While tracks are playing or being triggered, click and drag with your mouse in the oval shape in the mix display. By dragging the cursor up-and-down or right-and-left you can get dramatic modifications to your sound.

The live performance aspect of the Remixing Studio promotes combining and layering digital audio in a much more musically intuitive fashion than just using a graphic editor to lay sounds out on a timeline. We encourage learning the keyboard commands and practice playing live, it will be worth the effort.

The Editing Studio

The Editing Studio is the equivalent of a "sequencer". It enables graphic editing of the timings in a recorded performance. The keys that were held down during a live performance are represented by different colored bars. Volume fades, panning,

Chapter 4: Quickstart

This quickstart is designed to take the new StudioPro user through the basic functions of StudioPro. More detailed information about using the different studios is presented in later chapters.

Help System

To learn more about any aspect of the program, turn on expanded bubble help by clicking the "Help" button. Mouse over any part of the screen and an explanation will be displayed.

Step 1: Launch StudioPro

From the Windows Start Bar, select StudioPro from the Mixman StudioPro folder.

Step 2: Go to the Remixing Studio

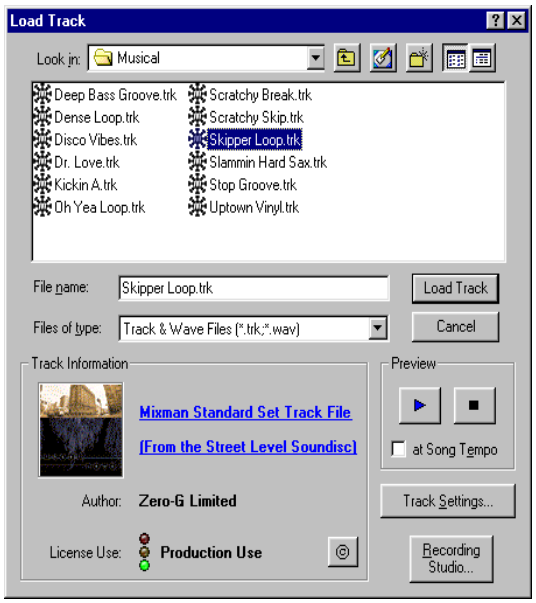
Click the Remixing Studio button from the Control Room.

Step 3: Loading sounds (fig. 2)

The sixteen X shaped track indicator lights around the two turntables represent the sixteen slots into which sounds are loaded.

To load a sound into a slot:

1. Double-click on a track indicator light for one of the sixteen slots.
2. Browse the folders to find the desired sound.
3. Click "Preview" to hear the sound.
4. Click "Load Track" to load the sound into the Mix.



Step 4: Performing a Mix (fig. 2)

The computer keyboard is used to trigger the sounds that are loaded into the Remixing Studio. Each sound is triggered by a different key.

To view a graphic overlay that shows which keys trigger which tracks:

1. Click the "Help" button.

To trigger a sound:

1. Click the "Play" button.
2. To hear a sound, press its corresponding key. When the key is released, the sound stops.

To lock a sound:

1. Simultaneously press the sound's triggering key together with either the "Spacebar" or the "+" key on the number pad.
2. Once a sound is locked, it no longer needs to have its key depressed, and its indicator light turns green.
3. Sounds may also be locked by clicking them with the mouse.

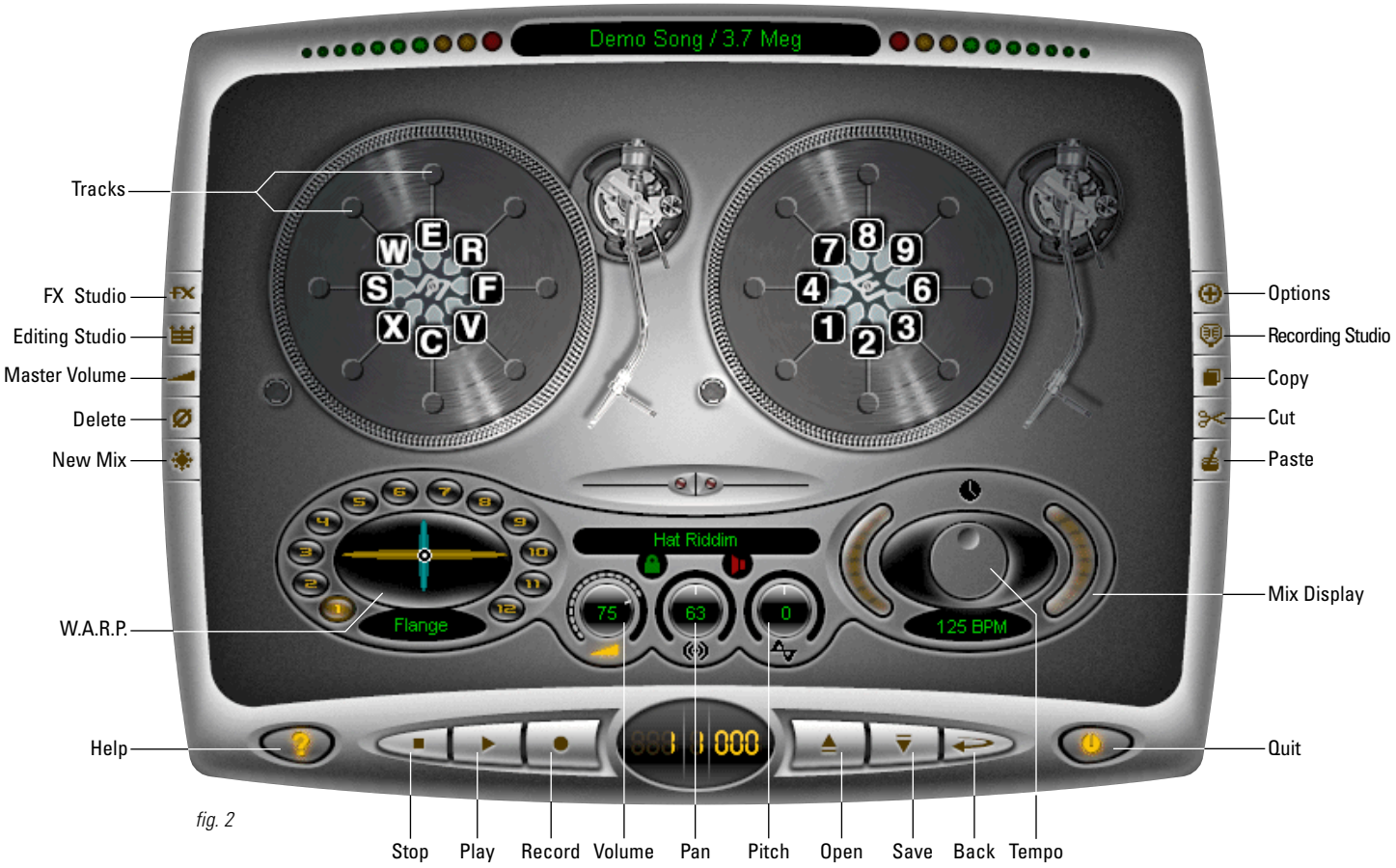


fig. 2

To unlock a sound:

1. Simultaneously press the sound's triggering key together with either the "Spacebar" or the "+" key on the number pad.
2. Sounds may also be unlocked by clicking them with the mouse.

To solo a sound:

1. Simultaneously press the sound's triggering key together with either the "Ctrl" key or the "-" key on the number pad.
2. When the solo key is released, the previously locked tracks will return. Create a break by pressing the solo key without pressing any other keys.

To add real-time FX (W.A.R.P.):

1. Make sure there is one or more sounds playing (manual or locked).
2. Select a W.A.R.P. preset by clicking on one of the 12 preset buttons.
3. Click and hold down the left mouse button over the W.A.R.P. controller.
4. While continuing to hold the left mouse button down, drag the mouse around the screen to change the effect.

Step 5: Changing parameters in the Mix Display (fig. 2)

The Mix Display provides control over the pitch, panning and volume of each track. To change the setting of one of these parameters for a track, make sure the name of the track you wish to change is displayed in the track name area. The track name area displays the name of the track you last activated. To display the name of a track without making it sound, press the "Alt" key and the key that activates the track you want to display.

Step 6: Adding FX (fig. 2)

Each sound in your Mix can be drastically altered by adding different kinds of FX processing.

To add FX processing to a sound:

1. Click the track to which you want to add FX processing.
2. Click the "FX" button on the left side of the screen.
3. The sound is now loaded into the FX Studio.
4. Right mouse click on the first FX slot to load an FX preset.
5. Click the Play button to hear the processed sound.
6. To load the FX processed sound back into the Mix, click the "Load to Mix" button.

Step 7: Recording a performance (fig. 2)

Now that you have some sounds loaded, the next step is to record a performance. Performance data includes information on which sounds to trigger, when to trigger them and real-time pitch, panning, tempo and volume changes.

To record a performance:

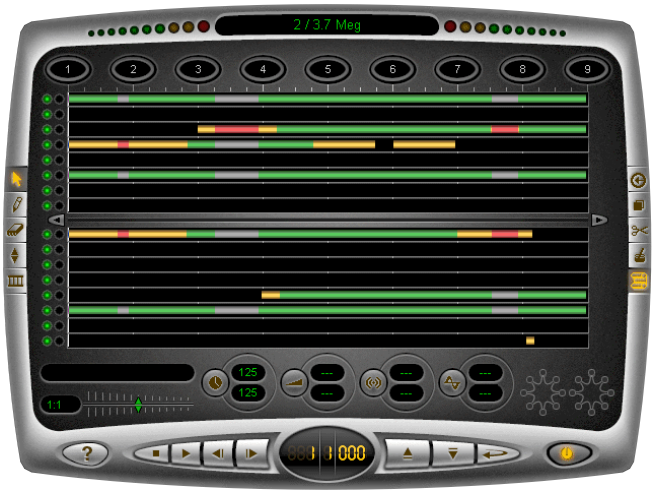
1. Click the Record button, perform your Mix when finished, click the Stop button.
2. To play back your Mix, click the play Mix button.

Step 8: Editing a performance

The Editing Studio works much like a spreadsheet program. The working area is comprised of a large grid broken into individual cells. Using the drawing tool allows for the creation of a performance that would not otherwise be possible. Dynamic parameter changes like fade outs or pitch changes are easily added to the performance.

To edit a recorded performance:

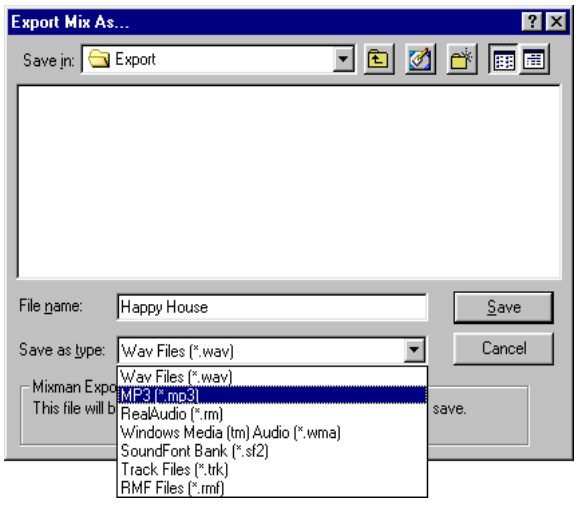
1. Click the "Editing" button on the left side of the bezel in the Remixing Studio. (fig. 2)
2. The colored bars represent the keys that were held down. Cut, copy and paste performance data until the perfect performance has been achieved.



Step 9: Exporting a Mix

To Export a mix as a CD quality .wav file:

1. Return to the Control Room.
2. Click the Export Mix button.
3. Select "To a file..." and click OK.
4. Select .wav from the list of export options; click save. This will create a CD quality (44.1 Khz, 16 Bit, Stereo) .wav file of your recorded performance. (remember that a 10 minute performance will take up about 100 megs of hard disk space).
5. To export to MP3, RealAudio G2, Windows Media Audio or any of the other formats, just select the format in the selection dialog.



Step 10: Create your own CD

If you have a CD writer and the software needed to create audio CD's (included with most CD writers) you can make a custom CD with your own music on it. Most CD writers/software allow you to create audio CD's from your .wav files. Use the Export function in StudioPro to generate several .wav files. Write the audio to a CD and then you can listen to the music you make in StudioPro from any CD player.

Chapter 5: The Control Room

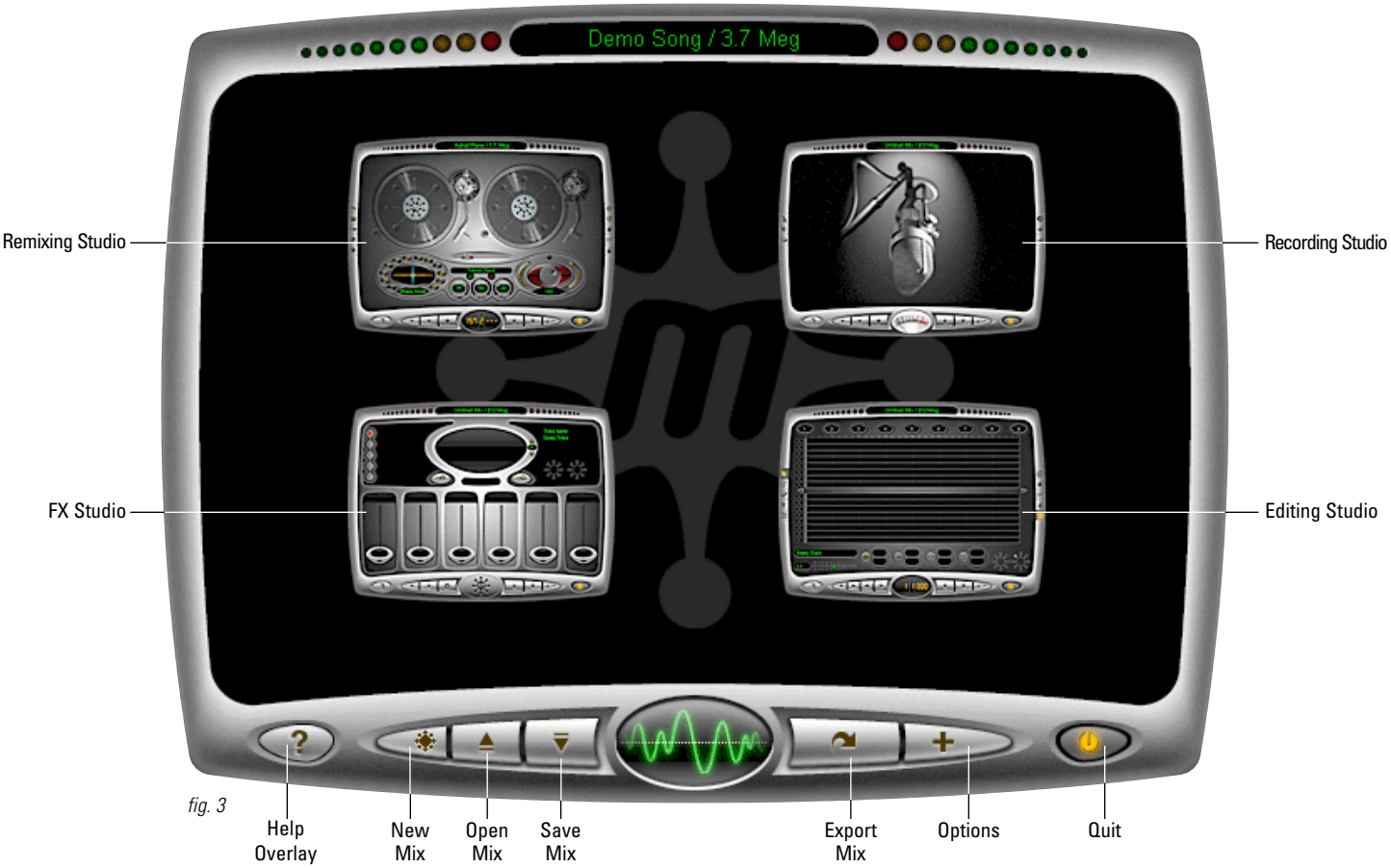


fig. 3

Overview (fig. 3)

Every session begins in the Control Room. From here you can open and save mixes, set options and export your music to different audio formats.

Creating a new Mix (fig. 3)

This function allows you to start a song with a clean slate. Creating a new Mix will erase any previously loaded sounds, performance data and FX settings.

To create a new Mix:

1. Click the "New Mix" button. If the currently loaded Mix has not already been saved, you will be given an opportunity to do so.

Opening a saved Mix

Opening a Mix resets StudioPro to the state it was in when the Mix was last saved. Sounds are re-loaded and re-processed with any saved FX processing. Mix files may also contain performance data, which can be cleared in the Remixing Studio. This will leave your sounds and FX processing untouched, while clearing any previously saved performance.

To open a previously saved Mix: (fig. 3)

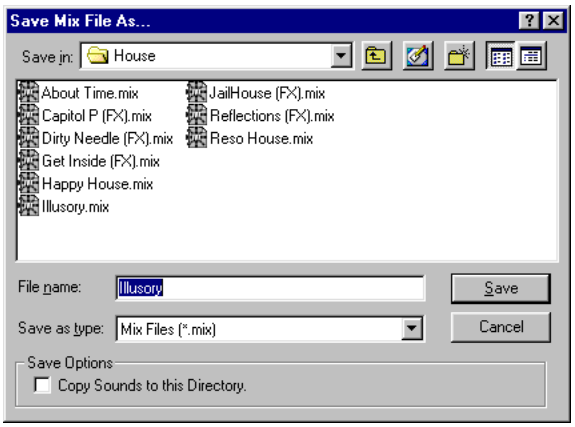
1. Click the "Open Mix" button. If the currently loaded Mix has not already been saved, you will be given an opportunity to do so.

Saving your work

One major problem in traditional studio environments is returning the studio back to the state it was in last time you worked on a particular song. StudioPro's integrated system has a distinct advantage with its ability to store all the information about a song in one file, called a Mix file. Mix files store the names and locations of all loaded sounds, the FX algorithms and their parameter settings, any pitch, panning, volume and tempo automation and any recorded performance.

To save the currently loaded Mix: (fig. 3)

1. Click the "Save Mix" button
2. Type in a name and click the "Save" button



Archiving your work

In the Save Mix dialog there is a checkbox labeled "Copy Sounds to this Directory". When checked, all of the sounds loaded in the Remixing Studio will be saved into one folder. This is useful for making backups of your music because you can store a Mix file and its associated sounds all in one convenient location. Sounds are saved in their original "dry" state, before undergoing any FX processing. This method of saving takes considerably more space than a Mix file alone since copies of all sounds are being created.

Exporting music to other formats

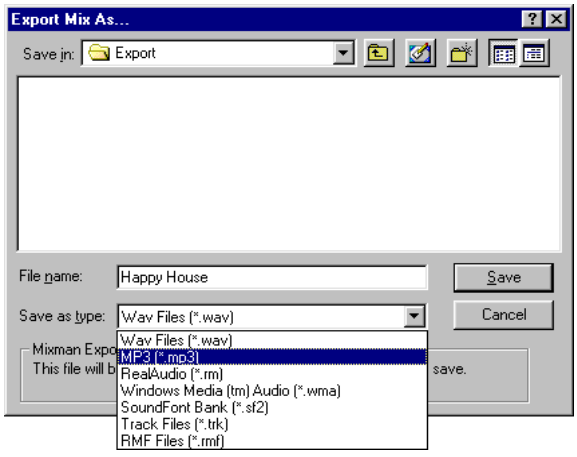
Saving your music as a Mix file is the most flexible option if you want to use your music solely in the StudioPro environment. However, to use the music made in StudioPro in other ways, such as creating your own audio CD or making music for the web you will need to export your finished music in another format. StudioPro provides the ability to export your music in a variety of formats. These formats include: PC Wave (.wav), RealAudio (.rm), SoundFont (.sf2), MPEG 3 (.mp3), Windows Media™ Audio (.wma), Beatnik (.rmf), and Mixman Track (.trk) format.

Exporting your music (fig. 4)

To export a saved Mix file, performance data is needed. To verify whether or not a Mix contains performance data open it in the Editing Studio. If there are any colored track bars displayed then there is performance data present.

To Export a Mix:

1. From the Control Room, open the Mix file to export.
2. Click the "Export Mix" button. (fig. 3)
3. Select "To a file..." and click OK.
4. Select the desired export format from the pull down menu.



Exporting as a PC wave file (.wav)

The industry standard format for audio on a PC is the .wav file. If you plan to produce custom audio CDs or import the music created in StudioPro into another program, it is necessary to first export it as a .wav file.

To export as a .wav file, a saved Mix with performance data is needed. A Mix file without performance data is nothing more than a list of sounds and therefore there is nothing yet to export. Make sure you have a recorded performance before exporting a Mix file to .wav. The .wav files exported by StudioPro are CD quality (44.1KHz, 16 bit, stereo). Before exporting, make sure there is enough disk space. Wav files take up 10 Megabytes for every minute of music.

Exporting as a RealAudio™ file (.rm)

RealAudio is one of the most popular formats today for delivering music over the internet. Different levels of compression are selectable during the export process. In order to hear the Real Audio files (.rm) created by StudioPro, a copy of the Real Audio player is required. A free copy can be downloaded from: www.real.com. You will need to export your mix in this format to upload your mix to Mixman Radio.

Exporting as a Beatnik Rich Music Format file(.rmf)

Beatnik Rich Music Format is the leading format for interactive audio over the internet or for web sonification. Different levels of compression are selectable during the Export process. Compression can be equal for the entire sound file or on a per track basis. Click the RMF Export Details button to make individual track compression settings.

To audition exported RMF files, drag them into a Web Browser with the Beatnik Player installed. The Beatnik Player is included with the StudioPro CD and is installed automatically with StudioPro 4.0. To learn more about Beatnik technology and RMF format, go to www.beatnik.com.

Exporting as a SoundFont™ Bank and MIDI File

SoundFonts are specially formatted audio files for Creative Labs Sound Blaster family of sound cards. To learn more about SoundFonts visit: www.soundblaster.com

When exporting a Mix as a SoundFont (.sf2), a SoundFont bank is created with each of the sixteen sounds converted into a separate SoundFont instrument. Along with the SoundFont bank, a companion MIDI file is also generated. Exporting as a SoundFont allows the sounds and music created in StudioPro to be used with any Creative Labs SoundFont enabled sound card, such as the Sound Blaster Live! and AWE-64. Once the SoundFont bank is loaded into the sound card, the MIDI file can be used to trigger the sounds from any MIDI sequencer, allowing integration into a larger studio setup.

Exporting as a MPEG3 (.mp3)

MP3 files are near CD quality compressed sound files. Their small size makes them an excellent choice for giving high quality previews of your music over the Internet. The highest quality MP3 file is 1/10th the size of the same music saved as a WAV file. You can use your MP3 exported mix with any MP3 player.

There are a number of choices for the quality of the MP3 file to export. Choose the quality that best suits your needs. The choices are:

- Archiving with CD-quality (128 Kpbs/44KHz Stereo)
- Portable MP3 Player (80 Kpbs/22KHz Stereo)
- 56 Kbps Internet Streaming (56 Kpbs/44KHz Stereo)
- 24 Kbps Internet Streaming (24 Kpbs/44KHz Mono)

Exporting as a Windows Media™ Audio (.wma)

This new format is another high quality smaller sized solution created by Microsoft.

There are a number of choices for the quality of Windows Media Audio file to export. Choose the quality that best suits your needs. The choices are:

- Good quality sound (128 Kpbs/Stereo)
- Stereo audio for the Internet (80 Kpbs/Stereo)
- Stereo audio for the Internet (48 Kpbs/Stereo)
- Mono audio for the Internet (22 Kpbs/Stereo)

Exporting as a Mixman Track file (.trk)

One of the most powerful features in StudioPro is the ability to create your own Track files. This feature significantly expands the creative possibilities of the system. All of the sounds and performance data in a Mix can be exported into one Track file. This means that unique bass lines, drum loops and other musical patterns can be sequenced and turned into custom Track files.

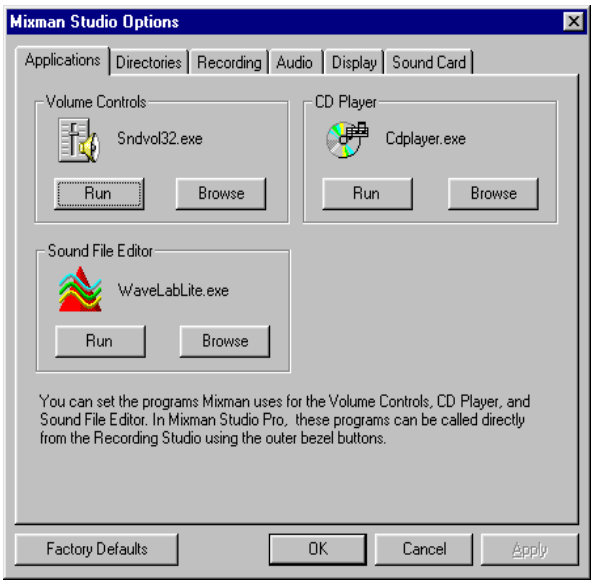
Please note, that using the Mix to Track feature can be very powerful, however, it will not turn a drum loop loaded as a .wav file into a fully interactive Track file.

Options

There are a number of options that determine they way in which StudioPro operates.

To change option settings:

1. Click the "Options" button in the Control Room Make any desired changes and click the "OK" button.



Auto-panning (Audio Tab)

When checked, this option gives an initial panning value to sounds as they are loaded in to the Remixing Studio. The panning values given are based a sound's relative position in a turntable. When unchecked, all sounds are panned in the center as they are loaded.

Long release (Audio Tab)

When checked, any sounds that are playing when a Mix is stopped continue to play until they fade out naturally. When unchecked, all sounds stop immediately when the Mix is stopped.

Default folders (Directories Tab)

These radio buttons allow default folders for the loading of sounds to be chosen. Each radio button corresponds to a turntable position. It is also possible to set default folders for exporting and opening Mix files.

Latency Setting (Sound Card Tab)

This option enables changes in the overall system performance to be made. These settings should not be changed unless advised to do so by Mixman technical support. These settings can drastically alter the performance of StudioPro. If you experience stuttering while playing a Mix, contact Mixman technical support.

Chapter 6: The Remixing Studio

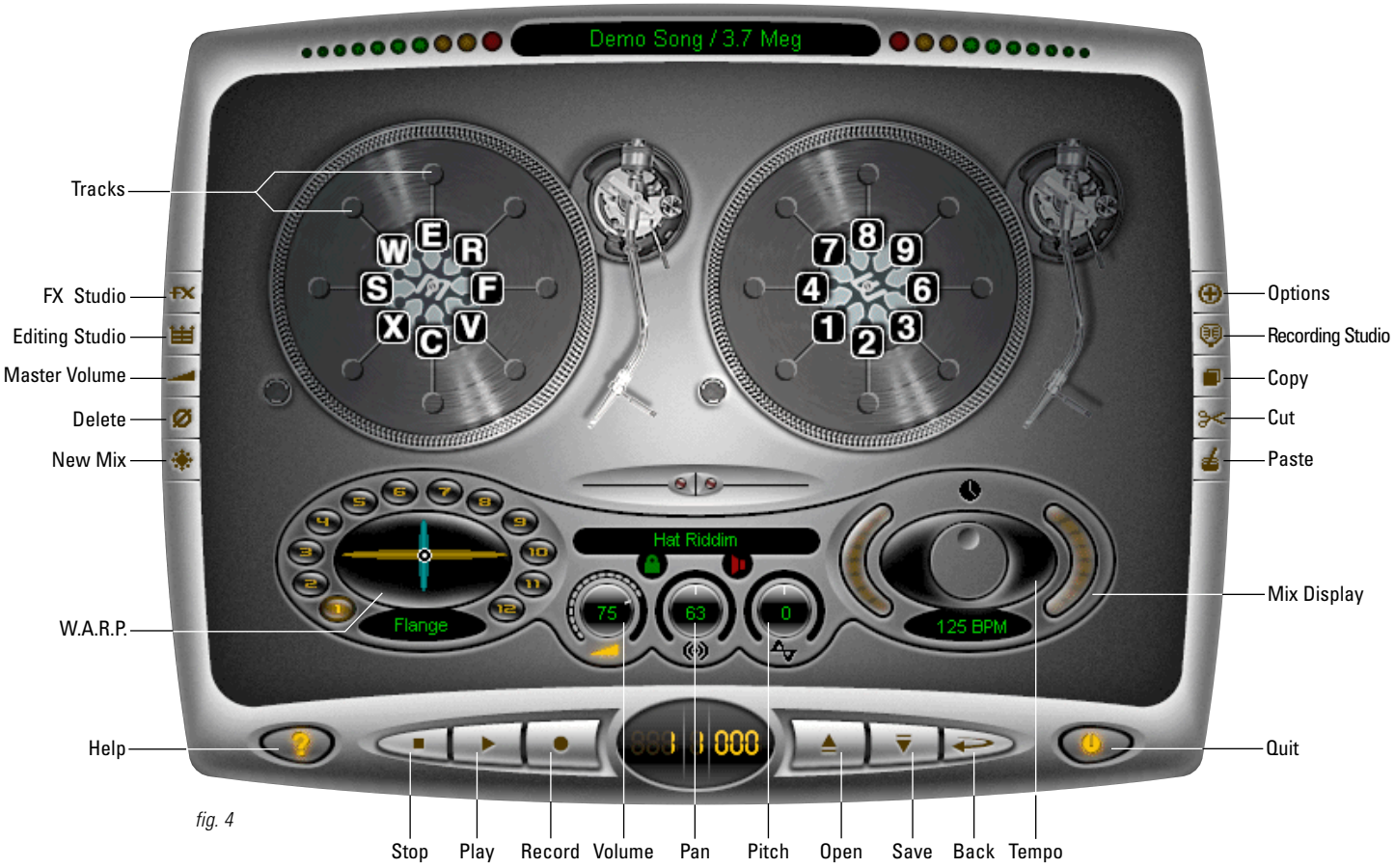


fig. 4

Overview (fig. 4)

The Remixing Studio is the live performance part of StudioPro. This is where sounds are loaded and music is performed in real-time. Notice how the computer keyboard takes on instrument like qualities.

Included Track files (.trk)

StudioPro comes with a large library of Tracks to get you started. High quality music can be made, performed and created right out of the box. Take a moment to listen to some of the included sounds.

The included sounds are sorted into folders according to musical style like [House] and [Hip Hop]. Within each folder are subfolders sorted according to instrument families like [bass] and [drum loops]. Finally, inside each instrument family folder are the tracks themselves. To see how individual sounds are used in a Mix, first try opening one of the included Mix templates.

Loading Sounds

The two turntable interface is where sounds are loaded. Each of the 16 X shaped track indicator lights is a slot into which a sound can be loaded. Sounds can either be Mixman Track (.trk) or PC wave (.wav) format. The advantage to track files is that their tempo is automatically matched to the tempo of the current Mix as well as providing superior live performance control.

To load a sound into a slot:

1. Double-Click on a track indicator light. (fig. 4)
2. Browse folders to find tracks or waves.
3. Select the sound you want.
4. Click “Preview” to hear the sound.
5. Click “Load Track” to load it into your Mix.

Using Mixman Singles™

Mixman Singles are downloadable, remixable songs from artists, remixers and producers around the world. Individual sound elements from the master tape of a song are converted into Mixman TRK (track) files and packaged together as one downloadable file. Each Mixman Single comes with a complete set of at least sixteen TRKs (tracks) ready to use in any Mixman software.

Generally, Mixman Singles will be downloaded from the Internet. They will come as self-executing files that will place the new tracks in your Tracks directory. *Note: many of these tracks are not "royalty free" and only for personal use.* Mixman Singles are available at www.mixman.com.

Using Mixman Soundiscs™

Although your own .wav files can be loaded into StudioPro, they lack the same level of interactivity as Mixman Track files. To enable users to create music in a variety of styles, Mixman has an extensive library of Soundiscs with Tracks in a wide range of musical styles. These Tracks have been specially produced just for the Mixman family of music remixing products.

Since sounds use large amounts of hard disk space, it is possible to load sounds directly from Soundiscs. Soundiscs can be purchased from the Mixman Website.

To load a Track from a Soundisc:

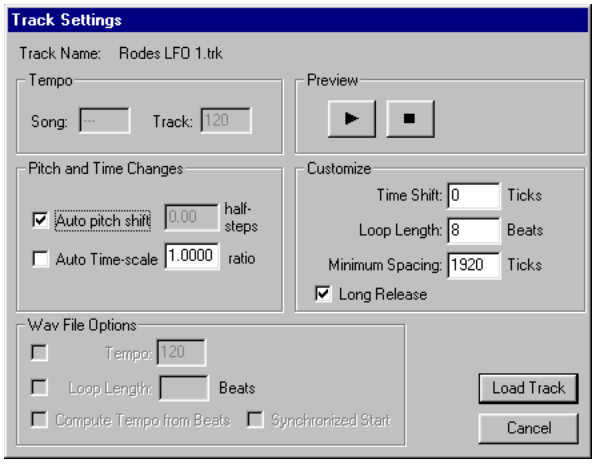
1. Double-click on a track indicator light. (fig. 4)
2. In the load track dialog, select the letter of your CD-ROM drive from the pull down menu.
3. Navigate to the various instrument families and preview or load a track.

Understanding the auto-beat matching settings

When loading Tracks, their tempos are automatically matched to fit the tempo of the current Mix. StudioPro automatically matches tempo by changing a Track's pitch, or through the use of time stretching algorithms.

To control how a track is loaded:

1. Double-click on a sound slot, the Load Dialog will appear.
2. Click the "Track Settings" button.
3. If Auto-Pitch is checked, pitch shifting is used to match the tempo of incoming tracks to the tempo of the current Mix.
3. If Auto-Time is checked, time stretching is used to match the tempo of incoming Tracks to the tempo of the current Mix.
4. To change the time stretch or pitch shift value manually, uncheck the appropriate check box and type in a value.
5. Interesting effects can also be created by manually setting a value for one parameter, and checking the Auto box for the other.



Recording custom sounds

To give your music a personal touch, record custom vocal or instrumental sounds. Sound recordings made in StudioPro are saved as 44.1 KHz mono .wav files. Once recorded, the .wav files may be edited using a .wav editor.

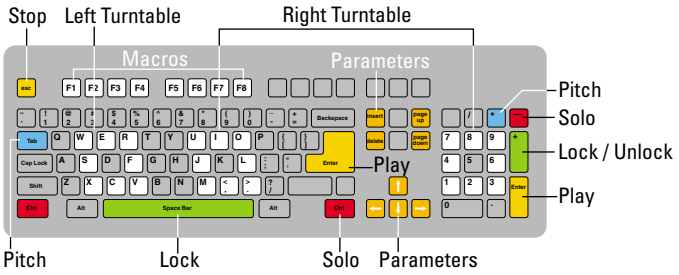
Remember, large recordings take up lots of space. StudioPro puts all of the sounds into RAM, if you record a sound that is too long, it might not fit in the available RAM.

To record a new sound:

1. Select a sound slot by double clicking the track indicator light.
2. Click the "Record a Sound" button from the load dialog to enter the Recording Studio.
3. Click the "Record" button in the Recording Studio to begin recording.
4. When finished, click the "Stop" button. To hear the recorded .wav file, click the "Play" button.
5. Click "Save" to save the recorded sound.
6. To automatically load the .wav file into your default .wav editing program, click the "Edit .wav" button on the bezel.
7. When finished editing, close the .wav editing program and save any changes.
8. To load the recorded .wav into the Remixing Studio, click the "Load to Mix" button.

The Keyboard Controls

Each sound loaded into the Remixing Studio is triggered by a different key on the computer keyboard. The sounds on the left turntable are triggered by the eight keys surrounding the "D" key. The sounds on the right turntable are triggered by the eight keys surrounding the "5" key on the number pad. For those with laptops, the sounds on the right turntable may also be triggered by the eight keys surrounding the "K" key. For a graphic overlay showing which keys trigger each track, click the "Help" button.



Performing a Mix (fig. 4)

Once sounds are loaded in to the two turntables, it's time to perform live.

To trigger a sound:

1. Press the "Play" button to engage play mode.
2. To hear a sound, press its corresponding key. When the key is released, the sound stops. Notice the light turns orange while the key is depressed.

To lock a sound:

1. Simultaneously press both the sound's triggering key together with either the "Spacebar" or the "+" key on the number pad. Once a sound is locked, it no longer needs to have its key depressed, and its indicator light turns green. Sounds may also be locked by clicking them with the mouse.

To unlock a sound:

1. Simultaneously press both the sound's triggering key with either the "Spacebar" or the "+" key on the number pad Sounds may also be unlocked by clicking them with the mouse.

To solo a sound:

1. Simultaneously press both the sound's triggering key with either the "Ctrl" key or the "-" key on the number pad. This mutes all other locked tracks.
2. When the solo key is released, the previously locked tracks will return.
3. Create a break by pressing the solo key without pressing any other keys.

To add real-time FX (W.A.R.P.):

1. Make sure there is one or more sounds playing (manual or locked).
2. Select a W.A.R.P. preset by clicking on one of the 12 preset buttons.

3. Click and hold down the left mouse button over the W.A.R.P. controller.
4. While continuing to hold the left mouse button down, drag the mouse around the screen to change the effect.

To change and load different W.A.R.P. presets:

1. Make sure the current mix is stopped.
2. Right mouse click on the W.A.R.P. preset number you want to change.
3. Select the desired preset from the pop-up menu.

Adjusting pitch, panning and volume

The Mix Display provides knobs for real-time control of four different sound parameters. While performing a Mix, the pitch, panning and volume of each track may be adjusted. The Pitch knob controls whether the pitch of a sound is high or low. The Panning knob controls a sound's positioning between the left and right speaker. The Volume knob controls a sound's overall loudness.

The knobs in the Mix display effect the currently active sound. The currently active sound is the sound with its name in the track name display. To make a particular sound active, press the key that triggers that sound. To do so without hearing any sound, hold down the "Alt" key while pressing the sound's triggering key.

To adjust a Mix parameter: (fig. 4)

1. Click and drag the knob representing the paramter.

Adjusting tempo

The tempo of a Mix can be adjusted in real-time without effecting its pitch. When a new Mix is created, the tempo defaults to 120 BPM (beats per minute). This default tempo of 120 BPM is changed automatically to the tempo of the first sound loaded. To achieve the best possible audio quality, we recommend not changing the tempo of a Mix after the first sound is loaded. If artifacts are introduced later, when changing the tempo of a Mix, re-load the sounds and they will automatically match the new tempo.

To adjust the tempo of a Mix: (fig. 4)

1. Click and drag the tempo knob.

Macros

Sometimes while performing a Mix it is necessary to lock four or five sounds at once while immediately unlocking others. Depending on the complexity, certain performance moves may not be physically possible, this is where macros come in handy. Macros store a snapshot of the state of the Remixing Studio. They store which tracks are locked, their pitch, panning and volume settings as well as the tempo of the mix.

To create a macro:

1. While performing a mix, simultaneously press the shift key and one of the first eight function keys F1-F8.
2. To retrieve a macro while performing a Mix, press the function key in which the desired macro was stored.
3. To start a Mix with more than one locked track, trigger a macro instead of clicking "Play".

Customizing sounds with FX processing

Sounds loaded into the Remixing Studio may be altered using FX processing. Up to five unique FX algorithms may be applied to each sound allowing for a wide range of sonic possibilities.

To load a sound into the FX Studio:

1. Click the sound in the Remixing Studio to be processed, then click the "FX Studio" button. (fig. 4)
2. For instructions with using the FX Studio see page 24.
3. For a listing of available FX algorithms and their descriptions, see Appendix: 2 on page 33.

Using the crossfader

Crossfaders are a common feature in most of today's DJ mixers. For a DJ, the primary use of the crossfader is to gradually fade from one record to the next. As DJ styles have evolved, the function of the crossfader has expanded. It is no longer just used for transitioning between songs, in fact, in the hands of a skilled DJ, it can be used to produce a variety of effects.

In StudioPro, the crossfader controls the relative volumes of the sounds on each turntable. When the crossfader is in its center position, the volumes of all sounds are 100% of their set volumes. When the crossfader is all the way to either the left or right side, sounds on the turntable closest to the crossfader knob are 100% of their set volumes, while sounds on the opposite turntable are all silent, regardless of their set volume. Remember, 100% of a low volume is still a low volume.

Crossfader performance data translates to specific volume changes in the Editing Studio. When playing back a Mix in the Editing Studio, tracks that were locked while the Crossfader was at 0% will be silent.

To use the crossfader:

1. While performaing a Mix, lock sounds on both turntables.
2. Click and drag the crossfader back and forth. (fig. 4)
3. Double Click the crossfader to return to the center.

Recording a performance

Everything done in the Remixing Studio while performing may be recorded, edited and saved as part of a Mix file. If the knobs in the Mix Display are adjusted while recording a performance, these real-time adjustments will also be recorded.

To record a performance:

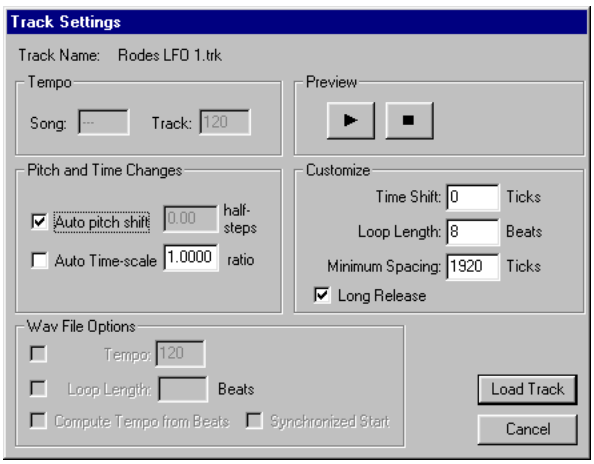
1. Click the "Record" button. (fig. 4)
2. Perform a Mix.
3. When finished, click the "Stop" button.
4. To learn how edit your performance data, see page 27.

Advanced settings

The way in which a track is loaded into a Mix may be customized to better integrate sounds and create unique effects. The settings for each track are accessible from the Load Dialog.

To view the settings for a track:

1. Double-click a track, the Load Dialog will appear.
2. Click the "Track Settings" button.
3. Click "Preview" to hear any changes.



Pitch Shift

This setting transposes the pitch of each "slice" of digital audio in a track by the number of half-steps in the pitch field. To transpose a sound down, use negative numbers.

When "Auto-pitch shift" is checked, pitch shifting is used as the method for matching the tempo of the selected track with the tempo of the current Mix.

Time-Scale

This setting scales the length of each "slice" of digital audio in a track by the ratio in the time-scale field. Numbers greater than 1 increase the duration of each "slice". Numbers less than 1 decrease the length of each "slice". For example, a value of 2.0 would double the length of each "slice" and a value of .5 would half the duration of each "slice". When "Auto time-scale" is checked, time scaling is used as the method for matching the tempo of the selected track with the tempo of the current Mix.

Time Shift

This setting shifts the starting time of a track earlier or later in time. The value for time shift is in ticks. There are 480 ticks per beat in StudioPro.

Loop Length

This setting changes the loop length in "beats" for the selected track. The smallest loop length allowed is 1 beat. If the loop length for a track is set greater than its original loop length, then there will be silence for the extra beats.

Long Release

When Long Release is on, sounds ring out for their full duration. When Long Release is off, sounds stop when their key is released.

Minimum Spacing

When a track is manually triggered (pressing its key on the computer keyboard), after the initial sound is triggered, no other "slice" will be heard for the length of time in the minimum spacing filed. The time for minimum spacing is in ticks.

Adding your own .wav loops

Adding custom .wav file loops in a Mix is great way to add an original touch to your music. Loops are most effective when they are one or two bars long, of course any length (RAM limited) loop may be used. Effectively adding loops requires a bit more knowledge about the sounds your are working with than using Track files, but if these basic guidelines are followed things should go smoothly.

Preparing your loop

Before trying to add a loop to a Mix, make sure that it is edited properly. Using a .wav file editing program, edit the .wav file so that it loops perfectly. Some .wav file editors have a loop playback mode, which makes this process even easier. If your .wav file editing program does not have a loop playback mode, just make sure that the last thing heard at the end of the loop is right before the downbeat of the desired loop point.

Specific settings for .wav files

One your loop is properly edited, load it into a Mix by following the previous steps for loading a sound and accessing Track settings. There are special settings, available only when loading .wav files.

Tempo

In order to properly load a .wav file loop, the loop's tempo and loop length must be known. For best results, leave this box unchecked and let the program derive the tempo precisely by calculating it by using the loop length and duration of the loop. If a loop has not been edited, but its tempo is known, it may be entered here by checking the box and entering the tempo value.

Synchronized Start

When checked, triggered loops play in sync with the other tracks. For example, if a loop is triggered on the 3rd beat, it will start on the 3rd beat. Use this option when loading loops. If this box is not checked, loops will always start from the beginning no matter when they are triggered, regardless of what else is going on with the other tracks. Leave this box unchecked when loading "one hit" type sounds like a crash cymbal.

Compute Tempo from beats

When checked, the program will compute the exact tempo of a loop using the loop length parameter and the duration of the .wav file. Use this option if your .wav file has been properly edited as discussed previously. If a loop has not been edited properly, leave this box unchecked.

Loop Length

If a loop has been properly edited, as discussed previously, check the box and enter the length of the loop in beats. Also, for best results, check the compute tempo from beats box and leave the tempo box unchecked.

Chapter 7: The Recording Studio

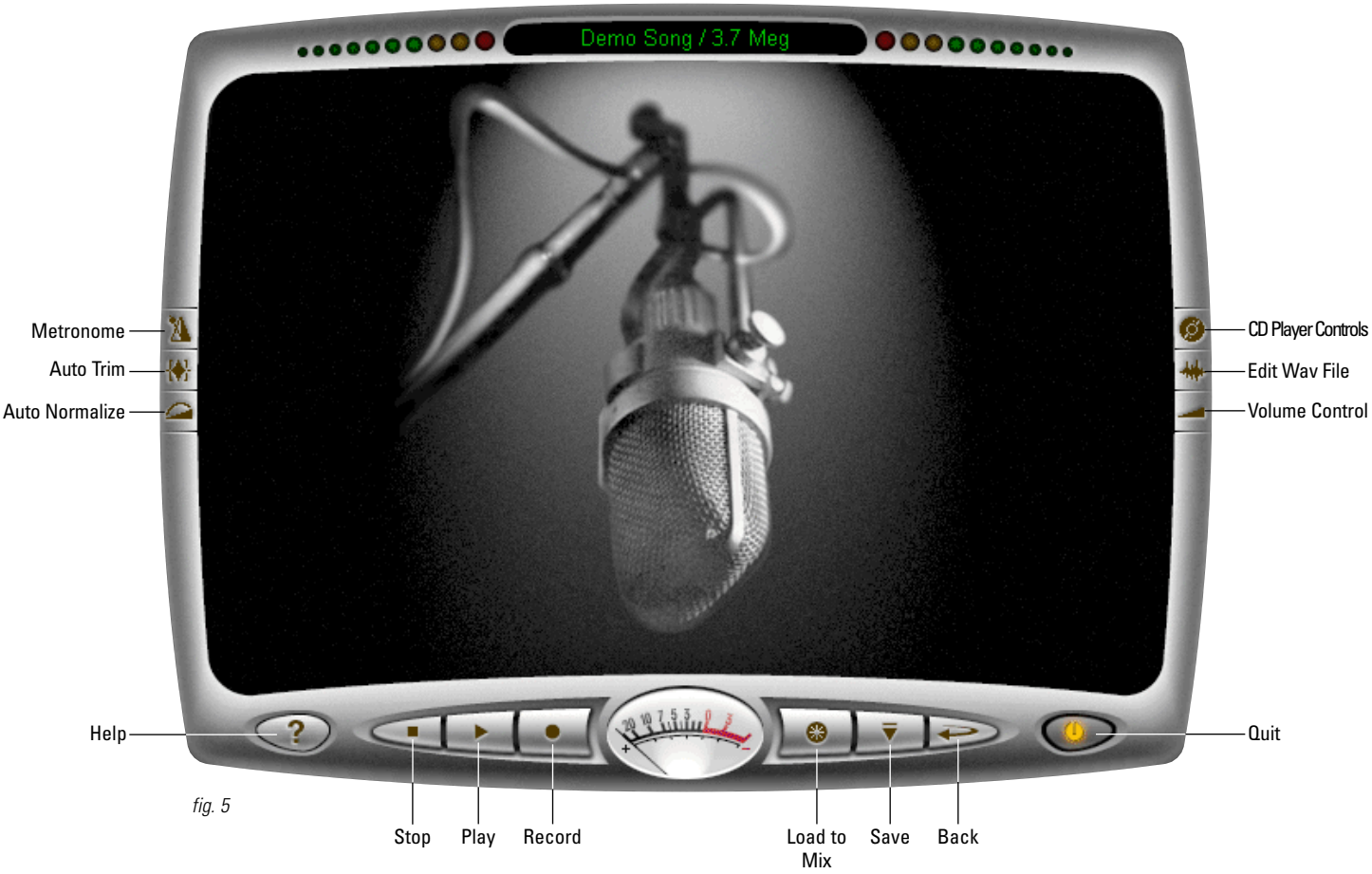


fig. 5

Overview (fig. 5)

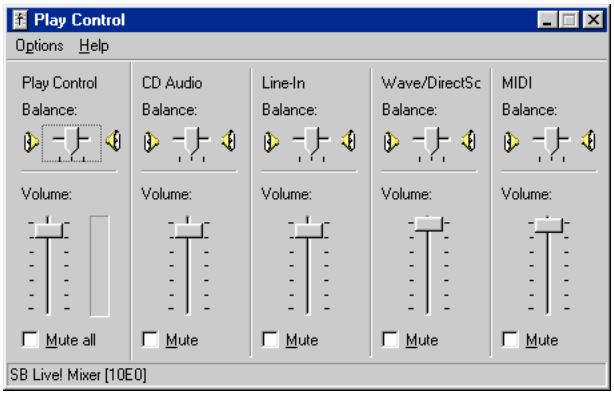
The Recording Studio is designed to enable quick recording of .wav files for use in StudioPro. Sounds may be recorded from many sources, including microphone, line input and CD. After recording, a sound may be edited using the computer's default .wav editor.

Setting the volume controls

To make a recording, it is important to first check to see that everything is setup properly. The proper sound source must be plugged into either the line or microphone input of the sound card, and the appropriate input activated. Each sound card comes with a volume control program that aids in the setup process.

To access the volume control program:

1. Click the "Volume Controls" button. (fig. 5)
2. Since the features of each sound card differ, for detailed instructions on setting up your particular sound card, refer to the sound card's documentation.
3. To help keep time while making a recording, there are two types of metronomes available while recording. The tempo of the metronome is the same as the tempo of the current Mix. The first, is a click that comes through the PC speaker. The second blinks the "Record" button light.



To control the different metronomes:

1. Click-drag the "Metronome" button. (fig. 5)
2. Select either of the metronomes to make them active.

Recording using the microphone and line inputs (fig. 5)

Use the microphone input for recording voice and other acoustic sounds. Use the line input for recording from an analog source.

To record a sound:

1. Make some sound to verify that there is a signal to record.
2. If there is a signal, the meters will move.
3. Click the "Record" button to begin recording. Click "Stop" when finished.

To audition the recording:

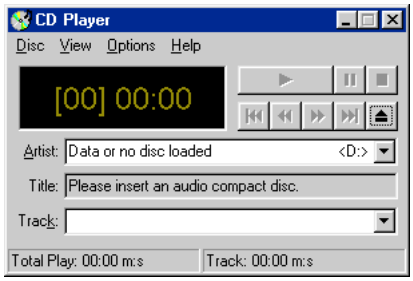
1. Click the "Play" button.
2. When finished, click the "Stop" button.

Recording from CD

Recording sounds using the computer's CD-ROM drive as a CD player is simple. In order to record from CD, the audio output of the CD-ROM drive must be properly connected to the sound card. This connection is inside the computer and should not be changed except by a computer repair person.

To record a sound from CD:

1. Click the "CD Player Controls" button to launch the computer's CD player. (fig. 5)
2. Cue the CD player to the desired location and click the pause button.
3. Click the "Record" button.
4. Click the "Pause" button on the CD Player controls to resume playing.
5. Click the "Stop" button when finished.



Editing the recording

A proper graphic sound editing program is a serious tool with many useful features for editing and processing sound files. Rather than create a basic .wav editor in StudioPro, our decision was to let you use your own .wav editing program to edit the recordings made in the Recording Studio.

To edit a recording:

1. Click the "Stop" button to make sure that the sound is not playing back.
2. Click the "Edit .wav File" button. (fig. 5)
3. The default .wav editor will launch, and the recorded sound will be automatically loaded.
4. Edit the recording as usual.
5. Save any changes and close the .wav editing program.
6. Upon returning to the Recording Studio, the sound will be updated with the newly edited version.

Auto-Trim

When making recordings quickly, sometimes having to edit manually may be time consuming and throws an unneeded wrench into the creative process. When speed is important, StudioPro can handle the task of basic editing. The dead space between the time the "Record" button is clicked and when you make you first sound may be automatically trimmed by the program. When auto-trim is on, any sound that falls below the silence threshold level in the start and end of the recording will be automatically trimmed.

To turn auto-trim on:

1. Click the "Auto-Trim" button. (fig. 5)
2. Check the box to turn it on.

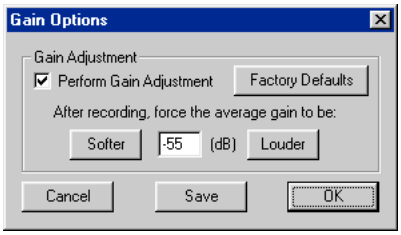
3. The silence threshold can be set by typing in a number, lower numbers are softer in volume.

Auto Normalize

To ensure the best possible signal-to-noise ratio when making recordings, it is best to turn auto-normalize on. Normalizing boosts the sound level so that it is as loud as it can be without distorting. Generally it is recommended to use the default settings. Higher values yield louder sounds.

To turn auto-normalize on:

1. Click the "Auto-Normalize" button. (fig. 5)
2. Check the "Auto-Normalize" box.
3. The normalize level can be set be typing in a number.



Chapter 8: The FX Studio

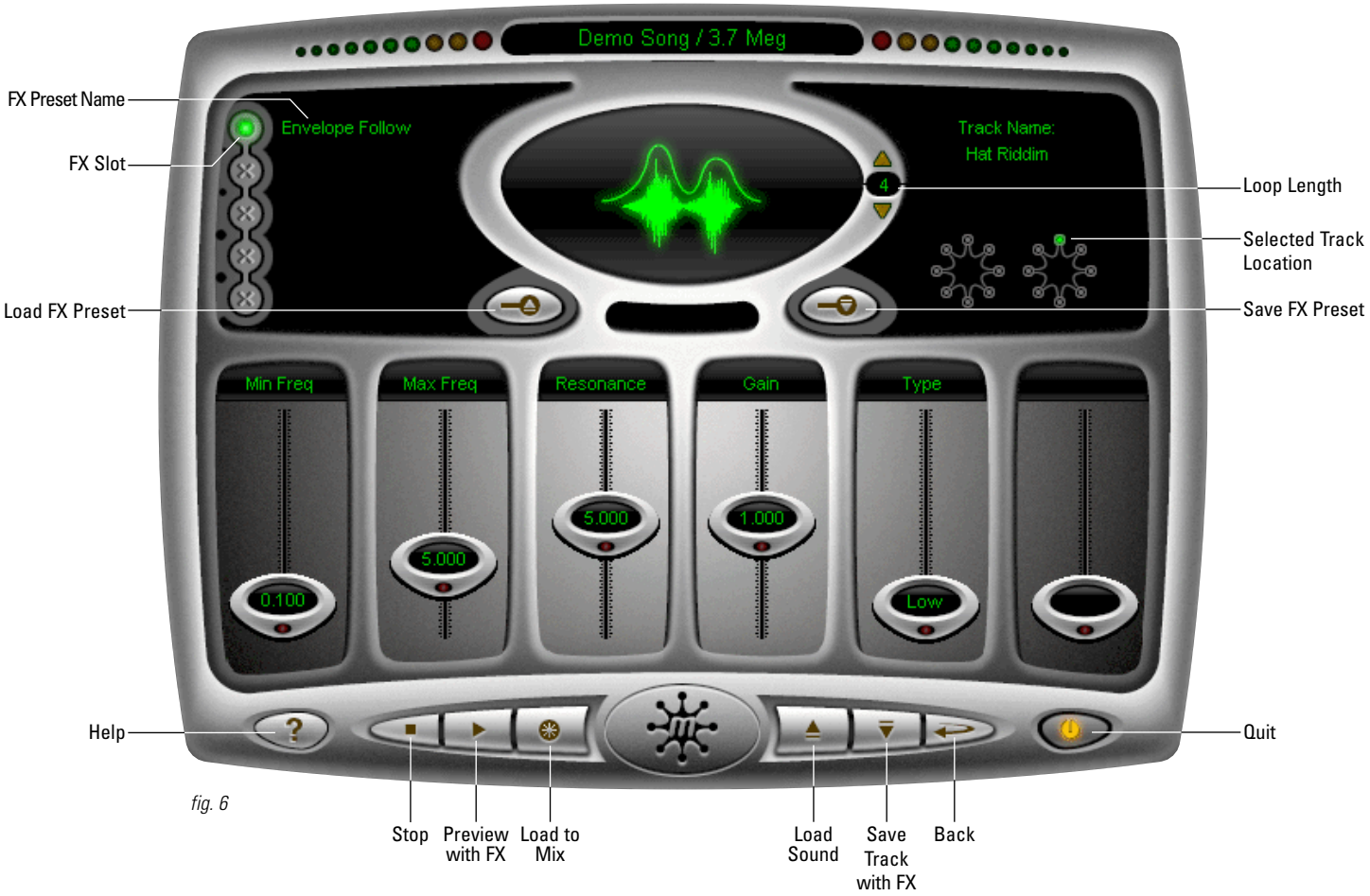


fig. 6

Overview (fig. 6)

The FX Studio is designed to provide the tools and flexibility necessary to customize sounds with ease. StudioPro enables effortless combining of sounds from many different styles of music. The results can sometimes be a bit rough around the edges. The FX Studio helps smooth those edges and gives Mixes a personal twist.

For those familiar with the more traditional method of adding FX processing by sending a signal to an FX box and returning the altered signal back to your mixer, things may seem a little different in StudioPro. StudioPro uses more of a "sound design" approach to FX processing. Instead of running the different FX processors live (which takes up considerable CPU power), we allow each sound to be processed out, with up to five unique FX algorithms.

Sounds are processed out of real-time and the result is stored in RAM. Original sounds are not altered and each FX parameter can be changed at any time, making this a totally non-destructive environment. The result is the functionality of 80 independent FX processors, a feat that would be impossible with even today's fastest computers and would cost thousands of dollars to duplicate in hardware.

What is an FX algorithm?

The FX Studio is a collection of sound processing functions, called algorithms. These algorithms contain the instructions necessary for StudioPro to carry out their desired effect. There are 15 available FX algorithms, each designed to provide maximum sound quality and intuitive control.

What is an FX preset? (.fx)

Each FX algorithm has one or more parameters that can be

changed to control its precise function. The specific settings of each parameter in an FX algorithm can be stored as an FX preset (.fx). FX presets can be loaded individually into the FX Studio at any time.

There are 99 available FX presets. The presets are organized according to which FX algorithm is being used. For example, "Dark Hall" is the name of an FX preset that uses the "REVERB" FX algorithm to simulate the sound of a dark concert hall environment.

What is a multi-FX preset? (.mfx)

An FX preset stores the settings for one FX algorithm, a multi-FX preset (.mfx) stores the settings for up to five different FX algorithms. Which FX algorithms are loaded, their order and individual parameter settings are all stored in a multi-FX preset. This makes it easy to identically process different sounds.

Loading sounds into the FX Studio

FX processors are common tools in today's modern music studios. They are used to add reverb to vocals, add crunch to a drum loop or even change a guitar pluck into the sound of an alien invasion. Each of the sounds loaded in the Remixing Studio can be customized using FX processing.

To load a sound into the FX Studio from the Remixing Studio:

1. Click the sound you wish to process.
2. Click the "FX Studio" button.

To load a sound directly from the FX Studio: (fig. 6)

1. Click the "Load Sound" button.
2. Browse and select a sound to process.

Loading FX presets

The architecture of the FX Studio is simple yet powerful. Each sound in a Mix may be individually processed with up to five FX algorithms. There are 25 FX algorithms and over 100 FX presets from which to choose. Processing is handled one sound at a time. To control which sound is being processed, use the sound selector to choose between the different sounds loaded in the Remixing Studio.

To load an FX preset:

1. Double-click on the first "Empty FX" slot. (fig. 6)
2. Double-click the desired FX algorithm.
3. Double-click the desired FX preset.
4. Press the "Play" button to hear the processed sound.
5. To keep the changes and load the processed sound back into the Mix, press the "Load to Mix" button.
6. Processed sounds in the Remixing Studio may be loaded back into the FX Studio and their settings changed at any time.

Signal Flow

In order to get the most out of the FX Studio it is important to understand the audio signal flow. Sounds are processed by the first FX algorithm (the one on top), the output is then passed to the second FX algorithm, and so on. FX algorithms connected this way are said to be "chained" together.

The parameters of any of the five loaded FX algorithms are changeable at any time. The original sounds are never altered or "destroyed" during processing, so it is referred to as non-destructive processing.

Changing FX Settings

The FX presets are a great starting point, but in order to take full advantage of the FX Studio, try customizing the settings that are included with the FX preset. Click the Save Preset button to store additional custom presets.

To change an FX parameter:

1. Click and drag the slider for that parameter. (fig. 6)
2. Click the "Play" button to hear the processed sound.

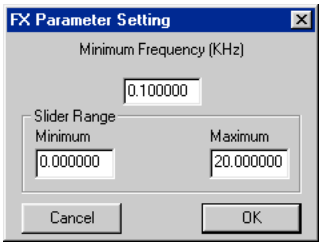
Changing FX parameter units

Some of the FX algorithms have time or speed as one or more of their parameters. Parameters like delay time and LFO speed can be expressed as either musical values, like beats and ticks, or as specific time values like seconds or milliseconds. The advantage to specifying time in musical values is that the tempo of a sound is taken into account when calculating the actual delay and LFO times as opposed to specifying a value that has nothing to do with a sound's tempo. The units used by some of the FX parameter sliders can be changed to a number of different units.

To change the units for an FX parameter slider:

1 Click the name of an FX parameter slider (green text above the slider). (fig. 6)

2. Select the desired units from the pull down menu.
3. If no pull down menu is present, the units for that parameter cannot be changed.

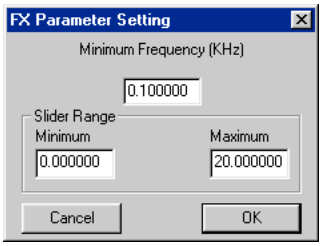


Changing FX slider ranges

The range for each FX parameter slider is stored as part of an FX preset. If the resolution of the slider is not precise enough, or the minimum or maximum value desired is not selectable, the slider range needs to be changed.

To change the range for an FX parameter slider:

1. Click the name of the desired FX parameter (green text above the slider). (fig. 6)
2. Type in the desired minimum and maximum values.



Creating custom FX presets

FX presets may be modified by moving any of the available parameter sliders. The current settings for an FX algorithm may be saved as a custom FX preset that may be re-loaded at any time. Since presets are customizable, the number of FX presets is endless.

To create a custom FX preset:

1. Click the "Save FX" button with one FX algorithm loaded into the FX Studio. (fig. 6)
2. If multiple FX algorithms are loaded, the set is saved as a multi-FX preset (.mfx).

Creating multi-FX presets

Multi-FX presets allow a complex, multi-FX algorithm processing set to be applied to different sounds.

To create a custom multi-FX preset:

1. Click the "Save FX" button with two or more FX algorithms loaded. (fig. 6)
2. If only one FX algorithm is loaded, a single FX preset is created.

Saving processed sounds

If the available five FX algorithms do not provide enough power to create the desired effect, processed sounds may be saved out and loaded back in for more processing. Once re-loaded, it may be processed with up to five more FX algorithms.

To save a processed sound:

1. Click the "Save as" button. (fig. 6)
2. This will save the sound with the processing applied. Once saved, it is not possible to return the sound to its original state.
3. To avoid permanently altering an original track or .wav, it is best to save sounds with FX processing under a new name. All original Mixman Track files can be reloaded from the original CD-ROM.

Chapter 9: The Editing Studio

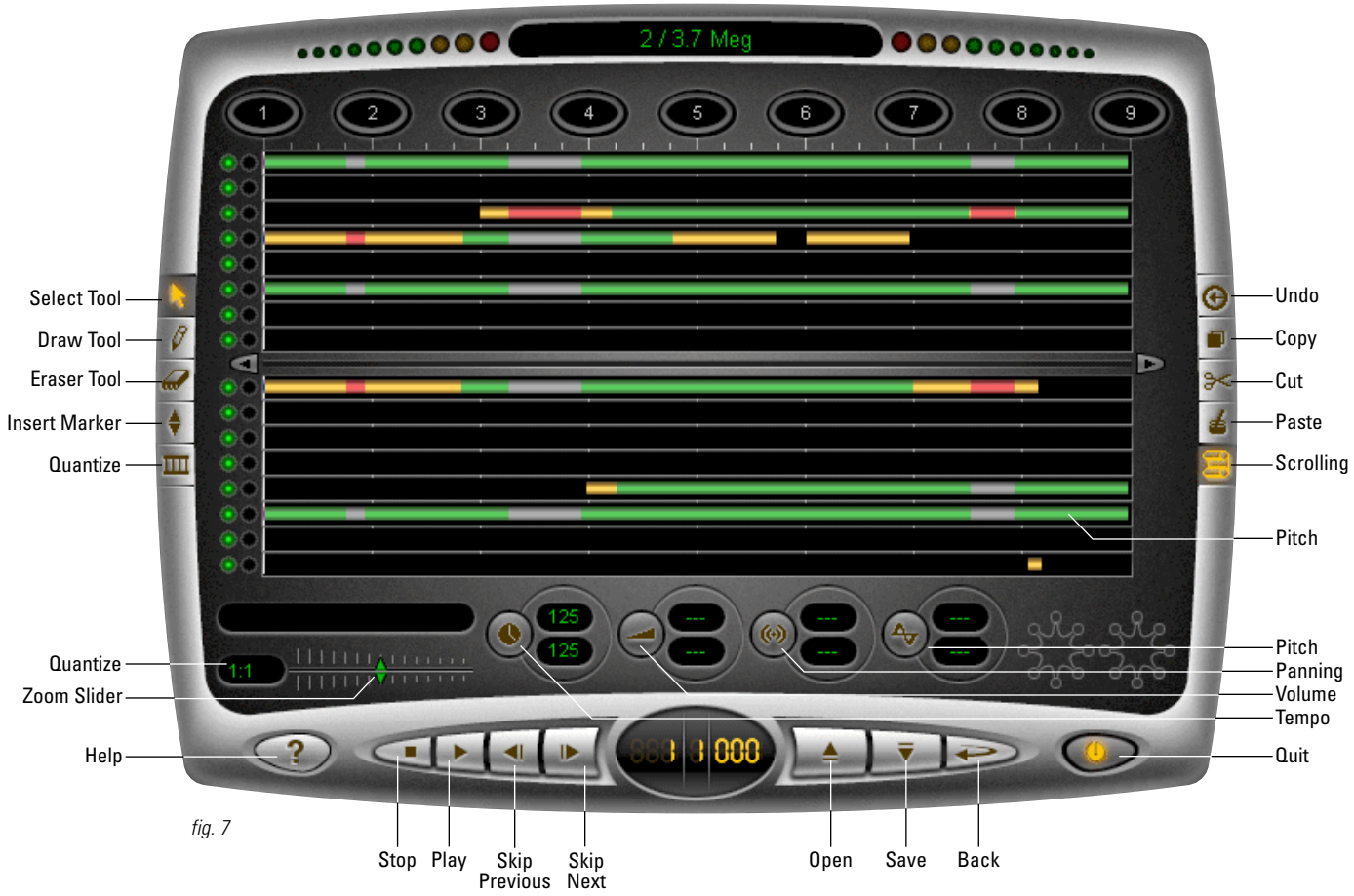


fig. 7

Overview (fig. 7)

StudioPro was created with real-time performance in mind so it was necessary to provide a method for editing all aspects of the performance data. The Editing Studio is a graphical representation of a performance and has been designed to be easy to use, yet powerful enough to create a finished piece of music. In addition to editing recorded performance data, new performance data can be created from scratch using the drawing tools. The ability to "draw" in performance data, opens the door for Mixes to be created that would not otherwise have been physically possible to play.

Understanding Performance Data

Most multi-track audio editing programs allow audio files to be laid out graphically over time. This approach is very precise, but in order for it to work well, the files must be pre-edited just right. Moving an audio file's start time can have an adverse effect on the overall musical synchronization. In StudioPro, a different approach is utilized. Instead of moving audio files around, users create or modify performance data. What exactly is performance data? To understand this concept, it is necessary to review the way in which the Remixing Studio functions.

In the Remixing Studio, sounds are loaded into the various slots on the two turntables. The physical act of pressing specific keys on the computer keyboard is what actually triggers these sounds. In this way the sounds are "performed", and thus the term "performance data". A live recording of a performance will often capture complex movements that might otherwise be impossible to devise or take hours to create from scratch. These performances reflect when sounds were started and stopped, and how they may have been modified in real-time.

The same real-time synchronization employed in the Remixing Studio carries over to the Editing Studio. Because only

performance data (when and how a Mix was performed) is edited, not actual audio files, disrupting the musical synchronization of a Mix is not an issue. When track bars are moved to earlier locations, the sound is not being moved, only the timing of when the key for that sound is being "pressed" is altered. This method of editing sound allows more intuitive control during the editing process, maintaining rock solid synchronization the whole time.

The meaning of the different colored bars

Performance data is displayed as different colored bars, called track bars. The performance data for each sound is represented by a different track bar in the edit area. This area is arranged in a grid format. Each track bar represents how the sound will be performed during playback. The color coding of the different track bars is the same as that used in the Remixing Studio. Orange track bars represent sounds that are "manually" triggered. Green track bars represent sounds that are "locked". Blue track bars represent sounds that are locked and contain pitch shift settings that are non-zero. Red track bars represent sounds that are soloed. Gray bars represent the sounds that are muted during solo.

Zooming (fig. 7)

The zoom slider provides an easy way to change how much musical time is displayed in the edit area. Next to the zoom slider, is the zoom ratio indicator. This number reflects the current zoom level. When the zoom ratio is 1:1, each cell is one measure long. To zoom out, move the slider to the left. The maximum size of a cell is 128 measures. To zoom in, move the slider to the right. When completely zoomed in, each cell is a 1/128th of a beat.

Navigating (fig. 7)

There are a number of methods provided to navigate around the Editing Studio. A Mix may be played starting from any point. The play line is the white blinking line in the edit area. When a Mix is played, it always starts from the current position of the play line. To jump to a specific point in a Mix, move the play line to the desired location. There are several ways to move the play line.

To move the play line to a new location:

1. Click a measure marker to move the play line to that location or, click the counter, type a measure number, press the "Enter" key or, press the "0" key on the number pad, type the desired measure number.
2. Use the "Del" key on the number pad to switch fields, then press the "Enter" key.

Selecting and editing (fig. 7)

The editing model used in StudioPro is similar to that of a spreadsheet program. This style of editing presents some unique possibilities and ease of use. The edit area is comprised of 16 available tracks. Each track is then divided into eight "cells". The smallest amount of data that can be selected is one whole cell. The visual size of a cell remains constant, however, how much information a cell contains changes depending on the chosen zoom level. The way to control the amount of actual performance data in a given cell is by changing the zoom level of the edit area. When completely zoomed in, each cell is 1/128th of a beat in length. When completely zoomed out, each cell is 128 measures long. This cell based editing makes it very easy to clean up performance data and quickly create complex musical structures.

Using the editing tools

The editing tools are the buttons located on the left and right sides of the user interface. Each tool performs a different function. Some tools have multiple options. To select the different options for a tool, click the button and hold it down for a moment (like a pull down menu). To change options, just hold the mouse down and select the desired option.

Select (fig. 7)

Use this tool for selecting performance data to be edited.

Editing functions, operate on whatever cells are currently selected (highlighted with a white border).

Draw Tool (fig. 7)

Allows performance data to be drawn in using a pencil. Both orange and green bars may be drawn.

The difference between orange (manual) & green (locked) Track Bars.

When creating performance data from scratch using the drawing tools, it is important to understand the distinction between orange and green tracks bars.

Orange track bars represent sounds that are manually triggered in the Remixing Studio. When sounds are manually triggered, they are heard immediately. This

introduces the possibility of momentarily losing musical synchronization.

Green track bars represent tracks that are locked in the Remixing studio. When tracks are locked, the audio "slices" in the Track file are not always heard immediately, but are triggered according to the timing information embedded in the Track.

As a general rule, use orange bars if a sound should play exactly where drawn, and green bars when perfect musical synchronization is more important. For example, use green bars for things like bass and drum loops and use orange bars for "one hit" sounds like crash cymbals and vocals.

Eraser Tool (fig. 7)

Use the tool to erase unwanted performance data.

Cut (fig. 7)

Cuts the performance data from the selected area. This leaves a "hole" where the data that was cut used to be.

To cut performance data:

1. Zoom to a level that reveals the targeted performance data in one cell.
2. Select the cell by clicking on it with the mouse.
3. Click the "Cut" button.

Cut and Ripple (fig. 7)

Cuts the performance data from the selected area and ripples to the left the remianing data. This has the effect of "sewing together" two sections on either side of the cut. This is useful when "chopping out" a section of unwanted data, instead of leaving a hole with no performance data, the remaining data moves over.

Copy (fig. 7)

Copies the selected performance data into the copy buffer so that it can be pasted elsewhere.

To copy performance data:

1. Zoom to a level that reveals the targeted performance data in one cell.
2. Select the cell by clicking on it with the mouse.
3. Click the "Copy" button.

Paste (fig. 7)

Pastes the performance data that is currently stored in the copy buffer, to the selected area. If performance data from only one track is being pasted, then it is pasted to the whichever track is currently selected. If multiple tracks of performance data are pasted at one time, then only the starting location is taken into account.

If performance data is pasted at a location where other performance data already exists, then the new data is written over the previous data.

To paste performance data:

1. Click the cell into which the performance data should be copied.
2. Click the "Paste" button.

Paste and Ripple (fig. 7)

Pastes the performance data that is currently stored in the copy buffer to the current location and then ripples over later in time, remaining performance data. This is useful for inserting a section without deleting what is already there.

Merge (fig. 7)

Functions exactly like paste, but performance data pasted on other performance data is merged, not overwritten.

Quantizing (fig. 7)

To get the maximum benefit from StudioPro's real-time performance capabilities we recommend recording performances live in the Remixing Studio, and then editing them in the Editing Studio. There is a musical quality that comes with playing a Mix live that is difficult to duplicate by creating it from scratch using the drawing tools. However, nobody has robotic timing.

The quantize feature helps correct any timing in a recorded performance. Quantizing works by snapping all performance data to a musical timing grid.

To quantize performance data:

1. Select the desired performance data by clicking or drag-selecting it with the mouse. Click the quantize button.
2. The quantizing value determine the resolution of the grid.

Controlling volume, pitch, panning and tempo

One of the most powerful features of the Editing Studio is the ability to automate the pitch, panning, volume and tempo settings over time. This can be used to create volume fades, pitch ramps and other effects.

Creating a volume fade (fig. 7)

Volume fades are useful when trying to bring sounds in and out smoothly. They can also be applied to all tracks at once to fade in the beginning or fade out the ending of a song.

To create an volume fade:

1. Select the performance data to fade by drag-selecting it with the mouse.
2. Click the volume icon. Type in a starting and ending volume. The selected performance data will fade from the starting volume to the ending volume.
3. To fade completely in or out, click the appropriate “Fade In” or “Fade Out” button.
4. A constant value for volume may also be set by clicking the appropriate button.

Creating a pitch ramp (fig. 7)

Pitch ramps are especially useful on drum sounds. Changing the pitch of a drum sound over time produces interesting effects.

To create an pitch ramp:

1. Select the performance data to pitch ramp by drag-selecting it with the mouse.
2. Click the pitch button.
3. Type in a starting and ending pitch. The selected performance data will ramp from the starting pitch to the ending pitch.
4. A constant value for pitch may also be set by clicking the appropriate button.

Panning a sound (fig. 7)

Panning sounds creates a sense of space in a Mix. Panning can be used both statically and dynamically. Static panning can be used, for example, to have a tambourine play only out of the left speaker. Dynamic panning can be used to have the tambourine automatically pan from the left to right speaker.

To pan a sound:

1. Select the performance data to pan by drag-selecting it with the mouse.
2. Click the panning button.
3. Type in a starting and ending panning value. The selected performance data will pan from the starting value to the ending value.
4. A constant value for panning may also be set by clicking the appropriate button.

Using song markers (fig. 7)

Sometimes it is necessary to skip to different sections of a song during the editing process. This is particularly useful when Mixes become longer, or a Mix has very distinct sections. This skipping is achieved using song markers. Song markers may be inserted at any point in a Mix.

To insert a song marker:

1. Place the play line the location to mark by clicking the appropriate measure marker.
2. Click the “Insert Song Marker” button.
3. To skip back and forth between the different markers, use the skip buttons.There is no limit to the numbers of song markers allowed.

Appendix 1: Keyboard Commands

Control Room

Go to the Remixing Studio ..... Ctrl + M
Go to the Recording Studio .....Ctrl + R
Go to the Editing Studio .....Ctrl + E
Go to the FX Studio .....Ctrl + F
Quit StudioPro ..... Ctrl + Q
Activate Onscreen Help System .....Ctrl + H
Open Mix .....Ctrl + O
Export Mix .....Ctrl + X
New Mix ..... Ctrl + N
Save Mix .....Ctrl + S

Recording Studio

Quit StudioPro ..... Ctrl + Q
Activate Onscreen Help System .....Ctrl + H
Record a .wav ..... Ctrl + R
Play current recorded .wav ..... Enter
Stop playback ..... ESC
Back to Control Room ..... Backspace
Save new .wav file .....Ctrl + S
Load .wav to Mix .....Ctrl + L

Remixing Studio

Engage Play Mode ..... Enter
Lock/Unlock Tracks ..... Spacebar
Engage Break Mode (Solo) ....Ctrl or (-) on the number pad
Record a Performance .....Ctrl + R
Go to the Editing Studio .....Ctrl + E
Go to the FX Studio .....Ctrl + F
Quit .....Ctrl + Q
Activate Onscreen Help System .....Ctrl + H
Open Mix .....Ctrl + O
New Mix ..... Ctrl + N
Save Mix .....Ctrl + S
Clear Performance Data .....Ctrl + B
Copy Track .....Ctrl + C
Paste Track .....Ctrl + V
Delete Track .....Ctrl + X
Undo Record .....Ctrl + Z
Launch the Load Track Dialog ..... Ctrl + I
Store Macro .....Shift + F1 through F8
Back to Control Room ..... Backspace
Select Pitch Knob .....Page Up
Select Volume Knob .....Page Down
Select Panning Knob ..... Insert
Select Tempo Knob ..... Delete
Change Parameter Values .....Up/Down Arrow Keys
Select Paramater Knob Left/Right .....Arrow Keys
Select Track Without Making Sound ...Alt + the Track's Key
Clear Track Copy Buffer .....Ctrl + K
Track Settings .....Ctrl + Shift + I
3.0 style Load dialog .....Alt + Double-click track
Cross Fader Hard Left .....[
Cross Fader Hard Right .....]
Cross Fader Center ..... "

Load Dialog

Preview Track ..... Spacebar
Load Track to Mix ..... Enter
Change Active Button ..... Tab
Scroll through Folders or Tracks Up/Down .....Arrow Keys
Track Settings Shortcut ..... Alt + S

Editing Studio

Back to Control Room ..... Backspace
Quantize Selection .....Ctrl + G
Select Tool .....Ctrl + 1
Draw Orange Bar .....Ctrl + 2
Draw Green .....Ctrl + 3
Eraser .....Ctrl + 4
Go to the Remixing Studio ..... Ctrl + M
Go to the FX Studio .....Ctrl + F
Set Zoom Ratio 1:1 ..... S
Zoom to Entire Mix ..... F
Zoom Out .....A
Zoom In .....D
Scroll Left One Cell ..... W
Scroll Right One Cell ..... E
Scroll Left Whole Screen .....Q
Scroll Right Whole Screen .....R
Quit StudioPro .....Ctrl + Q
Activate Onscreen Help System .....Ctrl + H
Open Mix .....Ctrl + O
New Mix ..... Ctrl + N
Save Mix .....Ctrl + S
Copy Selected Cells .....Ctrl + C
Paste Selected Cells .....Ctrl + V
Delete Selected Cells .....Ctrl + X
Undo last Edit (multiple undos) .....Ctrl + Z

Select All/Highlight All Cells .....Ctrl + A
Skip Backwards .....Ctrl + J
Skip Forwards .....Ctrl + L
Type Position In Counter 0

FX Studio

Preview Sound with FX ..... Enter
Stop Preview .....ESC
Load Sound with FX to Mix .....Ctrl + L
Launch Load Dialog ..... Ctrl + I
Back to Control Room ..... Backspace
Save Track with FX as a New Track File .....Ctrl + S
Quit StudioPro .....Ctrl + Q
Activate Onscreen Help System .....Ctrl + H
Delete Currently Selected Effect ..... Delete Key
Change Currently Selected FX SlotUp/Down .....Arrows
Go to the Remixing Studio ..... Ctrl + M
Go to the Recording Studio .....Ctrl + R
Go to the Editing Studio .....Ctrl + E

Appendix 2: The FX Algorithms

Auto Pan

Speed: Speed of auto pan

Panning reflects a sound's relative positioning between the left and right speakers in a stereo field.

Auto panning a sound automates the movements from right to left or vice a versa, over time.

Adjusting the speed parameter will effect how fast the sound travels between the two speakers.

Band Pass Filter

Freq: Center frequency of the band pass filter

Resonance: Amplitude boost around the center frequency

Gain: Gain of the input to the band pass filter

A band pass filter allows only a band of frequencies to pass through. Frequencies not included in the band are eliminated. A band pass filter creates an effect that is similar to a telephone. When you talk normally, your voice has low, mid and high frequencies. When your voice passes over a telephone the person on the other end hears only the mid range of frequencies coming through. The telephone acts as a band pass filter, only letting pass the midrange frequencies of your voice.

Adjusting the center frequency changes the center of the band of frequencies that are passed through the filter. Increasing the resonance creates a distinctive ringing sound as the center frequency is amplified. Since adding resonance can increase the amplitude of your signal, a gain control is provided to eliminate unwanted distortion. If you hear distortion, bring the gain down.

Delay

Time: Delay time

Fine: Fine adjustment for the delay time

Feedback: Amount of signal from the output to be fed back into the delay algorithm

Delay, sometimes referred to as echo, is one of the most widely use FX algorithms. The delay algorithm takes any sound that comes in and passes it through so you can hear it immediately, but also sends a digital copy of the sound some time later, producing a delay effect. The time it takes for the first delay to be heard is controlled by the delay time and fine adjust parameters. The number of delays (echos) you hear depends on the feedback setting. The higher the feedback, the more delays your will hear. Since StudioPro process all of your sound in RAM, keep in mind that adding delay can increase the size of your sounds.

Distortion

Drive: Amount of distortion

Gain: Gain adjustment for the output of the distortion algorithm

Distortion is most commonly used by guitarist to create that classic electric guitar sound. It turns your clean signal into a distorted mess. Used cleverly, distortion can be useful for a variety of sounds. Using it is simple, to add more distortion, crank up the drive. Since increasing the drive effects the amplitude of the signal, there is also a gain adjust on the output of the distortion algorithm. Using the gain control, you can have something sound distorted, but not have it be overpowering in volume.

Envelope Follower

Min Freq: The minimum Freq for the selected filter

Max Freq: The maximum Freq of the selected filter

Resonance: Amplitude boost around the center or cutoff frequency of the selected filter

Gain: Gain adjustment to the input to the selected filter

Type: Selects which filter type to use (low pass, band pass, high pass)

The envelope follower algorithm uses the sound that is being processed as a way to automate changing the Freq parameter of a selected filter type over time. The effect is the same as someone changing the Freq parameter of the selected filter type following the rhythm of the incoming sound.

First, select one of the three available filter types low pass, band pass or high pass. Instead of setting the cutoff or center frequency for the selected filter type, you set a possible minimum and maximum value. The algorithm analyzes the sound you are processing and records the volume of the signal over time. This analysis produces a map that changes up and down over time, like the waveform of an EKG machine. The louder the signal, the higher the waveform. Now for the fun part, the

map that is created be analyzing the incoming sound is used to control the Freq parameter of the selected filter. When the signal is at its loudest, the Freq parameter will be as high as the Max Freq. When the signal is at its softest, the Freq parameter of the selected filter will be as low as the Min Freq.

Filter Sweep

Start Freq: Starting center/cutoff frequency of the selected filter type

End Freq: Ending center/cutoff frequency of the selected filter type

Type: Selects which filter type to use (low pass, band pass, high pass)

Resonance: Amplitude boost around the center or cutoff frequency of the selected filter

Gain: Gain adjustment to the input to the selected filter

Multi-Trigger: Sweep each "slice" of audio or over the entire sound file

The Filter sweep algorithm automates changing the center/cutoff frequency of the selected filter over time. Depending on the settings, this algorithm can alter your sounds beyond recognition. The filter sweep algorithm is also one of the FX algorithms that takes distinctive advantage of the Track (.trk) format.

The starting frequency and ending frequency set the center/cutoff frequency of the selected filer type at the beginning and ending of the sweep. With the multi-trigger slider set to off, the selected filter will sweep from the starting freq to the ending freq for the loop length of the sound or the loop length set in the FX Studio display, which ever is shorter. If you have a 2 measure loop, and multi-trigger is off, the selected filter type will smoothly sweep from the starting frequency to the ending frequency over the two measure period. To take advantage of the face that Track (.trk) files are individual slices of audio, turn multi-trigger on. When multi-trigger is on, the selected filter will sweep from the starting frequency to the ending frequency for each "slice" of the Track (.trk) file. This is effect is unique to StudioPro. With multi-trigger turned on and resonance set around 8.0, you can turn drum sounds into rhythmic synthesizer like sounds.

Flange

LFO Time: Speed of the LFO

Depth: Depth of the LFO modulation of delay time

Delay: Maximum delay time

Feedback: Amount of the signal that is fed back into the flange algorithm

The flange algorithm is similar to the delay algorithm however with an important difference. Flange has an added feature that allows changes to the delay over time. The sound of the flange is distinctive and this processing can generate results in that are quite subtle as well as results that end up "obliterating" the sound you are processing.

The maximum delay time is set in the delay parameter. This delay time is changed (or modulated) over time by a low frequency oscillator (LFO). The speed of the LFO determines the rate of change of the delay time. The variance of the delay time is controlled by the depth parameter. The greater the depth, the more the delay time changes over time. When the depth parameter is set to 100, the delay time changes from the delay time to 0 delay time at the rate set by the LFO. The lower the LFO setting, the faster the change will occur.

Low Pass Filter

Freq: Cutoff frequency of the filter

Resonance: Amplitude boost around the cutoff frequency of the filter

Gain: Gain adjustment of the input to the filter

The low pass filter algorithm passes all frequencies below the cutoff frequency. Frequencies above the cutoff frequency are blocked. Low pass filters are normally used to take the high end (treble) away from a sound. They are useful for taking the high and mid range frequencies of a drum loop away so that all that's left are the low frequencies. This help create space in the high end, while keeping the feel of the original loop.

The Freq parameter controls the cutoff frequency of the low pass filter. The lower the value, the more bottom end you will hear. Since filtering a sound can drastically alter its over all loudness, there is a gain parameter to help boost the signal.

High Pass Filter

Freq: Cutoff frequency of the filter

Resonance: Amplitude boost around the cutoff frequency of the filter

Gain: Gain adjustment of the input to the filter

The high pass filter is the opposite of the low pass filter. All frequencies above the cutoff frequency are passed through, and the frequencies below the cutoff frequency are blocked. High pass filters are normally used to take the bass away from a sound. They are useful for taking the bass and mid range

frequencies of a drum loop away so that all that's left are the high frequencies. This helps create space in the bottom end, while keeping the feel of the original loop.

The Freq parameter controls the cutoff frequency of the high pass filter. The higher the value, the less bottom end you will hear. Since taking the bass away from a sound can drastically alter its overall loudness, there is a gain parameter to help boost the signal.

Multi-Trigger

Time: Delay time

Repeats: Total number of triggers

Volume Mode: The velocity curve for the multiple triggers (None, Random, Ramp)

Delay Mode: Modulation of the delay time (Normal, Random)

The multi-trigger algorithm is similar to the delay algorithm, in that it takes a sound and delays the output. The difference is that the multi-trigger algorithm creates the delays by actually triggering the slices in a track file more times than is specified in the track file. This does not take up any more RAM than the original sound. Since this effect actually creates more slices in a track, its interaction with other effects can be drastically different than the delay algorithm. For an interesting effect, place a multi-trigger before an auto pan with a speed of 127 in the same sound.

The time sets the delay time between the multiple triggers. The number of repeats is how many total triggers will be heard. The volume mode deals with the volumes of the subsequent triggers. When set to none, the volumes of all additional triggers will be the same as the first. When the volume mode is set to random, the volumes for additional triggers are randomized. When the volume mode is set to ramp, additional triggers decrease in volume. The delay mode determines if there is to be any change to the additional triggers' delay times. When set to normal, there is no change, when set to random, the delay times are randomized, creating a unique stuttering effect.

Mid Pass Filter

Freq: Center frequency of the mid pass filter

Width: Width of the passed band of frequencies

Resonance: Amplitude boost around the center frequency of the filter

Gain: Gain adjustment of the input to the filter

The mid pass filter is similar to the band pass filter in that it only lets a narrow band of frequencies through. It has one more parameter that makes it a bit more flexible that the band pass filter. The width of the passed band can be changed by the width parameter.

Pitch Shift

Steps: Number of half step to shift the pitch

Cents: 1/100 th of a half step values for changing pitch

Stretch: Controls whether or not to time stretch the shifted sound to its original length

The pitch shifting algorithm allows you to alter the pitch of a given track. Since pitch shifting a sound alters its playback speed and thus its duration, an option to time stretch the sound back to it original length is available once pitch shifting has been completed.

Reverb

Size: The size of the environment

Surface: The reflective properties of the surface in the environment

Mix: Controls the balance of wet to dry signal

Cutoff: Cutoff frequency of the low pass filter

Diffusion: The detail level of the reverb algorithm

Gate: Maximum allowed time for the reverb tail

The reverb algorithm is designed to simulate the sound of a reverberant environment. Since sound doesn't occur in a vacuum, environment plays a big part of how we as humans perceive sound. Whether a sound is loud or soft tells you something about a sound. It is interesting to imagine what the same sound would come out like in a bathroom or a concert hall.

The reverb algorithm can be used to simulate many different environments. Resultant sounds are dependent on all of the various parameters and how they interact. Try using the same sound with all of the different presets to gain a better understanding of how the parameters effect a sound.

The size parameter controls the overall size of the environment, the larger the number, the larger the environment.

The surface parameter controls the reflectivity of the surfaces in the environment. The higher the value, the more reflective the surface will be. More reflective surfaces cause sounds to take longer to subside. The cutoff parameter controls the cutoff of a low pass filter that the reverberated sound passes though. Setting the cutoff frequency lower has the effect of making the environment sound more muffled, like a room full of drapes. The diffusion parameter controls the resolution of the reverb

calculation. The higher the diffusion, the smoother the reverb will sound, but the calculation will also take more time. Finally, the gate parameter, controls the maximum allowed duration for the reverb tail. Setting this parameter shorter than the natural reverb tail will cut the tail off, creating what is commonly called a gated reverb.

Time Stretch

Factor: Amount of time stretching

Quality: Selects from four time stretching algorithms

The time stretch algorithm allows you to change the length of a sound without altering its pitch. The time stretch factor, changes the resultant length of a sound. For example, a two second sound with a time stretch factor of 2.0 will end up being 4 seconds long. The quality slider selects between four different time stretch algorithms. Algorithms from one to four are in order of processing time. Algorithm number four takes the longest and algorithm number one takes the shortest amount of time to complete the processing.

Wah Wah

LFO: Speed of the filter center frequency/cutoff modulation

Max Freq: The maximum center/cutoff frequency of the selected filter type

Resonance: Amplitude boost around the center/cutoff frequency of the selected filter

Gain: Gain adjustment to the input of the selected filter

Depth: The amount of modulation of the center/cutoff frequency of the selected filter

Type: Selects one of three filter types (low pass, band pass, high pass)

Wah wah allows you to modulate the center/cutoff frequency of a selected filter type over time using a low frequency oscillator (LFO). It gets its name from the classic sound it creates. When the filter type is set to low pass the effect is similar to the human voice saying “wah, wah, wah”.

The LFO speed of the LFO determines the rate of the filter’s center/cutoff frequency modulation. The lower the number, the faster the change. The Max Freq parameter is the maximum center/cutoff frequency for the selected filter type. The depth determines how far from the max frequency to modulate.

Chopper

Chunk Size: Sets the size of the chopped audio chunks

Envelope: Selects the amplitude shape for each chunk (Slow, Med, Fast)

Silence: Adjusts the amount of silence between each chunk of chopped audio

Chopper takes sounds and chops them into smaller chunks. Each chunk is part sound and part silence, this is what creates the classic on/off gated "chopping" sound. The amount of silence in each chunk is controlled by the silence parameter. When silence is large, the chunks of sound have more silence. When silence is small, the chunks have more sound. The speed of the chopping effect is controlled by adjusting the chunk size. The smaller the chunks, the faster the chopping effect.

The Envelope parameter controls the volume shape of the chunks. When the envelope is at its lowest, each chunk fades in and out. When the envelope is at its highest, each chunk comes in and out with a sharp edge.

Try using chopper on long sustained sounds like pads or to cut up vocals.

Chopper Sweep

Start Size: Sets the starting size of the chopped audio chunks

End Size: Sets the ending size of the chopped audio chunks

Envelope: Selects the amplitude shape for each chunk (Slow, Med, Fast)

Silence: Adjusts the amount of silence between each chunk of chopped audio

Chopper sweep automates changing chopper’s chunk size of over time. This gives the effect of speeding up or slowing down the rate of the chopping effect. Start size and end size set the chunk size for the beginning and end of the sweep. Each chunk is part sound and part silence, this is what creates the classic on/off gated "chopping" sound. The amount of silence in each chunk is controlled by the silence parameter. When silence is large, the chunks of sound have more silence, when silence is small there is more sound then silence.

The Envelope parameter controls the shape of the chunks. When the envelope is at its lowest, each chunk fades in and out. When the envelope is at its highest, each chunk comes in and out with a sharp edge.

Try using chopper on long sustained sounds like pads.

Chordinator

Freq 1: The pitch of the first resonator

Freq 2: The pitch of the second resonator

Freq 3: The pitch of the third resonator

Freq 4: The pitch of the fourth resonator

Feedback: The amount of signal fed back into the chordinator algorithm

Gain: Controls the input gain

Chordinator has four independent resonators, each at a different pitch. Any sound that goes through one of the four resonators "rings" at its set pitch. Using four resonators, each set to a different pitch, you can create chords. The amount of the ringing can be controlled by adjusting the feedback. The higher the feedback, the more "ring" will be heard.

Try using on drum loops to add harmony to a beat.

Comb Filter

Freq 1: The center frequency of the first band pass filter

Freq 2: The center frequency of the second band pass filter

Freq 3: The center frequency of the third band pass filter

Width: The bandwidth of the band pass filters

Resonance: Amplitude boost around the center frequencies of each band pass filter

Gain: Controls the input gain

The Comb Filter has three independent band pass filters, each set to a different pitch. Each band pass filter creates a whistling sound at its set pitch. The whistling sound can vary from a noisy ring to one pure tone, depending on the width setting.

Time Adapter

Factor: Amount of time scaling

Pitch Shift: Turns the auto pitch correction on

Time Stretch: Turns the auto time stretch on

Time Adapter is designed to bring fast loops into slow mixes and slow loops in fast mixes without changing their feel. This is sometimes referred to as half-time or double-time.

In order to use this effect properly, it's best to load sounds with no pitch shifting or time stretching.

The pitch shift and time stretch parameters work the same as the checkboxes in the load track dialog. When either is used, the difference between the current tempo of the mix and the new tempo of the processed track is corrected.

Use Time Adapter to bring a jungle beat into a trip hop mix.

Random Pitch

Pitch Down: The range of random pitch shifting above the natural pitch of the sound

Pitch Up: The range of random pitch shifting below the natural pitch of the sound

Random pitch randomizes the pitch of each "slice" of a Track (.trk) file. This randomization is done in real-time while the track is playing, so the pattern will never repeat. Since the pitch shifting occurs in real-time, slices of sounds with delay or other time based processing will sound slower or faster.

Reverse

Slice: Reverses the individual slices of audio

Order: Reverses the order the playback of slices

Align Attacks: Aligns the ends of reversed slices to their start times

Reverse allows you reverse the individual slices of audio in a TRK file. You can also independently reverse the order in which the slices playback. This creates the unique option to play the slices in reverse order, while leaving the their sound unchanged.

When a loop is reversed, the percussive starts of slices are moved later in time. This can make the loop sound like it's lagging in the mix. In order to solve this problem turn align attacks on. This moves each slice so that the ends are moved in time to the previous start points.

Beat Twister

Shuffle Slices: Randomly shuffles individual slices to trigger times of other slices

Random Time: Randomly moves the start times of individual slices earlier or later

Pitch Up: The maximum upper range for random pitch shifting

Pitch Down: The maximum lower range for random pitch shifting

Min Volume: The minimum random volume for each slice

Time Stretch: Time stretch slices to correct duration changes after pitch shifting

The Beat Twister is an extremely powerful effect that takes advantage of the TRK file format. It allows you to twist your beats and musical loops into entirely new ones.

When Shuffle Slices is on, individual slices are randomly re-mapped to the start time of a different slice. Pitch up and down set the range for random pitch shifting of each slice.

Min Volume sets the minimum range for random volumes for each slice.

Time stretch corrects any duration changes caused by pitch shifting.

Volume Sweep

Start: Starting volume of each "slice" of audio

End: Ending volume of each "slice" of audio

Shape: The speed and contour of the volume change

The Volume Sweep algorithm automates the amplitude of the audio "slices" over time. The Start volume sets the starting volume of the sound. The End volume sets the ending volume of the sound. The Shape determines how the volume changes over time. Set Shape to Slow and each slice will go from the Start volume to the End volume, creating either a fade in/out on each "slice" depending on the settings. Set Shape to Fast and each slice will go from the Start volume to the End volume in half the duration of each "slice". Set the Shape to UpDn and the volume of each slice will go from the Start volume to the End volume and then back to the Start volume.

Multi-Filter Sweep

Start Freq: Starting center frequencies of the four band pass filters

End Freq: Ending center frequencies of the four band pass filters

Resonance: Amplitude boost around the center frequencies of the filters

Spread: Different patterns of varying the center frequencies over time

Mix: The amount of dry versus processed signal

Multi-Sweep: Sweep each "slice" of audio or over the entire sound file

The Multi-Filter Sweep algorithm automates the changing of the center frequencies of four band pass filters over time. The signal is first split into four parts and each part individually processed with a band pass filter. The center frequencies of the band pass filters change over time. The exact center frequencies of the band pass filters are calculated based on the spread parameter.

Appendix 3: Troubleshooting

Mixman website

The Mixman website, www.mixman.com is an invaluable resource for troubleshooting. In our technical support area, there are links to the different sound card companies where technical information about a particular sound card may be found. There is also a link to Microsoft for getting the latest DirectX information.

Frequently Asked Questions

The frequently asked questions (FAQ) section of the Mixman website contains a continuously updated list of the most asked questions and answers from our users. It is the first place to look when trying to solve a problem or look for an answer.

Tips and Tricks

The tips and tricks section of the Mixman website is the place to go for using some of StudioPro's hidden features and as well as learning more about audio in general.

Chat board

The Mixman online discussion group may be found by visiting www.mixman.com and going to the Mixzone.

Appendix 4: Track Indicator Legend

When creating or playing a mix, a track can be in any of a number of states. The Track Indicator shape or color will change depending on which state you are in. This way, you can tell visually what is happening with a track.

Stop Mode

- Unlit X: means track is empty
- Unlit Circle: means track is loaded
- Red X: means track is empty and selected
- Green Circle: means track is loaded and enabled

Play Mode

- Yellow Light: means playing manually from keyboard
- Green Light: means track is loaded
- Red Light: means break mode engaged
- Blue Light: means pitch shift engaged
- Unlit X: means no track loaded
- Unlit Circle: means track loaded but not being played

Appendix 5: Creating Your Own Tracks

Mixman StudioPro comes with a large set of TRKs (tracks) in a variety of styles to get you started, but for those people wanting to take their music to the next level, this appendix explains how to create custom sounds to use in Mixes.

Mixman Singles™

Mixman Singles are remixable digital songs. Each Mixman Single comes with 16 or more TRK files from a particular song. They are available online at www.mixman.com.

Mixman Soundiscs™

Soundiscs are the easiest way to build your Mixman Sound Library. Each Soundisc has 175 or more TRK files by a specific artist or in particular style specially produced to work seamlessly with StudioPro. They are available at www.mixman.com and musical instrument shops.

Convert WAVs into TRKs

To convert WAV file loops into proper Mixman TRK files you need to convert them using a program specially designed for that purpose. ReCycle 1.7 and Wave Surgeon are currently the third party programs that export to TRK. Check www.mixman.com for availability.

Save a TRK with FX (FX Studio)

By altering TRKs in the FX Studio, sounds that are unrecognizable from their source can be created. For example: the Beat Twister can rearrange the individual samples, alter the timing and randomize the pitch of a loop making it into something completely different.

If you create a masterpiece in the FX Studio, save it and use it as a new TRK. Once TRKs are saved from the FX Studio, the processing cannot be removed. This allows you to reprocess them again by loading them and adding even more FX in the FX Studio.

Exporting a Mix as a TRK (Editing Studio)

Make a Mix using short WAV files such as individual drum sounds and export the Mix as a TRK file. All the WAVs and performance data are joined and and saved as a single TRK file. See page 12 for more details.

Record your own WAV files

Use the Recording Studio to record your voice or any other sound. Make sure that you are plugged into the correct input on your soundcard and that it is properly enabled before recording.

Importing existing WAV files

Mixman StudioPro supports importing stereo and mono WAV files.

Try using the internet as a source for finding unusual WAV files.

Using any standard WAV editing program you may edit sounds and import them. For better control of loops while playing in the Remixing Studio, convert WAVs into TRKs using WaveSurgeon or ReCycle 1.7

Appendix 6: My Mixzone™

My Mixzone is your own custom homepage at www.mixman.com. It is a place to upload mixes for others to listen to and remix online.

Step 1: Make a Mix

To utilize the My Mixzone feature, you first must create a mix in Mixman StudioPro. Use any of the mixes provided or create a custom.

Step 2: Export the Mix

From the Control Room, click the Export Mix button. Select "Upload to My Mixzone" and click "OK".

Step 3: Creating an Account

Type in your email address and choose a password. Click Next.

Note: A valid email address is required. Your account will not be established without a valid email. Authentication will be sent to the provided email address.

Step 4: Personal Info

Fill in the fields with appropriate information.

Note: This info will actually be displayed online.

Note: Pictures must be submitted in JPEG format.

Step 5: Custom Tabs

Each My Mixzone page has three areas to display custom text. Each will have a Tab.

Select a Tab name, or create a custom one by typing in the Tab name field.

Write a custom message in the large scrollable "Text Area".

Repeat this procedure for all the Tabs.

Note: If "Links" is chosen, web sites listed will appear as active links online.

Step 6: Choose a Color Scheme

Choose a color scheme for page from the pull-down menu.

Step 7: Mix Info

Fill in all requested Mix info. These include Artist, Title, Category and comments.

Step 8: Uploading the Mix

There are two choices for Uploading. Uploading a remixable version and uploading a preview. Choose one or both and click "Upload."

Uploading a Preview will enable others to listen to your music online.

Uploading a Remixable version will enable others to remix your music online.

Note: Preview files are RealAudio G2 and remixable files are Beatnik RMF.

Appendix 7: Mixman Radio™

Mixman Radio is an Internet based radio that plays music submitted by users of Mixman software from around the world.

mixman : mixzone - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Discuss Real.com
Address http://www.mixman.com
Mixman Radio
mixman
CHANNEL
20.7 Kbps
00:29.6/03:31.0
Story mellow mix
by DJ Tilt
tilt@spinscratch.net
Fun for kids of all ages...
6.16.00 DJ Tilt Story House mix
6.16.00 DJ Tilt Story mellow mix
6.16.00 Scratch-pad VFX (Koas remix)
6.16.00 Satchmo B Dronex Ore
6.06.00 LAZY eye Break Out
6.06.00 Scratch-Pad Strange love, "show...
6.06.00 DJ Fernando Mambo Beat
6.06.00 spinmaster Intergalactic Voyage
6.06.00 DJ FESTER I'M BACK
6.06.00 chris kerfoot Party People
REVIEWS
Aesthetic (aesthetic@quickturntables.com)
Pretty awesome , just wondering: what did you use to make that sawtooth wave sound?
Gold Fingiz (gold@dubhouse.net)
What a beautiful melody. Keep it up!
PICK
MIXZONE RADIO MESSAGE BOARD PHOTO ALBUM CONTESTS TIPS & TRICKS MY MIXZONE eMix
Internet

Step 1: Make a Mix

To upload to Mixman Radio, you must first create a Mix in Mixman StudioPro. Mixes for Mixman Radio must contain performance data. To record a performance, click the Record Mix button in the Remixing Studio and perform your mix. You may also use the Draw tool in the Editing Studio to draw in performance data.

Step 2: Export the Mix

From the Control Room, click the Export Mix button. Select "Upload to Mixman Radio" and click "OK".

Step 3: Creating an Account

Type in your email address and choose a password. Click Next.

Note: A valid email address is required. Your account will not be established without a valid email. Authentication will be sent to the provided email address.

Step 4: Personal Info

Fill in the fields with appropriate information.

Note: This info will actually be displayed online.

Step 5: Mix Info

Type your Artist Name, Title of your Mix, seclect the style of music from the pull-down menu and type in any description or comments. Click Upload to submit your Mix.